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Ministry of the Environment
Ministère de l'Environnement

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SECCHI DISC - CHLOROPHYLL A SELF-HELP PROGRAM - 1986

The "Self-Help Program" was initiated in 1971 in response to many requests from concerned cottagers for water quality surveys on many recreational lakes throughout the Province. In the Self- Help Program, cottagers perform the sample collection on their lakes and the Ministry analyzes and interprets the water quality information.

Volunteers in the Self-Help Program are supplied with sampling kits which include a Secchi disc, a water sampler, sample bottles and instructions. Participants are asked to take Secchi disc readings and collect water samples bi-weekly during the ice-free period of the year. The water samples are then shipped to the nearest Ministry of the Environment laboratory where they are analyzed for chlorophyll a. The true value of this program will only be realized if it is continued for a number of years in order to define long-term trends with regard to variations in the enrichment status of the lakes.

Enrichment of lakes occurs when fertilizing nutrients, such as nitrogen and phosphorus, enter the lake via rainfall, runoff from land, and shoreline development activities (i.e. subsurface disposal systems, land clearing, etc.). These nutrients promote the growth of aquatic plants and algae. It is important to realize that small to moderate amounts of aquatic plants and algae are necessary to provide food for fish. Too much growth, however, may interfere with water-oriented recreational activities.

Previous experience has indicated that there are three general categories of lake enrichment. All three categories exist in nature, however, man's activities can alter a lake's enrichment status. The transparency of the water as indicated by Secchi disc readings and the density of suspended microscopic aquatic plants, called algae, as indicated by chlorophyll a concentrations are measurements that are used to determine the enrichment status of a lake. The following table shows how these two measurements are interpreted to determine the enrichment status of a lake.

ENRICHMENT STATUS	SECCHI DISC (S.D.) (METERS - M)	CHLOROPHYLL A CONCENTRATION (CHL.A) (MICROGRAMS/LITRE - UG/L)
ENRICHED	0 - 3 M	4 UG/L OR GREATER
MODERATELY ENRICHED	3 - 5 M	2 - 4 UG/L
UNENRICHED	5 M OR GREATER	0 - 2 UG/L

ENRICHED LAKES

These lakes have high concentrations of nutrients and are characterized by excessive growths of algae and aquatic weeds. This may interfere with water-oriented recreational activities. As a result of the large amount of algae suspended in the water, Secchi disc readings are generally less than 3 meters and chlorophyll a concentrations are 4 ug/L or greater.

MODERATELY ENRICHED LAKES

These lakes have moderate concentrations of nutrients and are characterized by moderate growth of algae and aquatic weeds. They are suitable for the pursuit of water oriented recreational activities, however, they may develop periodic problems such as algae blooms. Secchi disc readings range from 3 to 5 meters and chlorophyll a concentrations range from 2 to 4 ug/L.

UNENRICHED LAKES

These lakes are the most desirable from a recreational standpoint. If these lakes are deep, they may support a cold water fishery such as lake trout. These are usually clear-water lakes, with low concentrations of nutrients. Secchi disc readings are 5 meters or greater and chlorophyll a concentrations are less than 2 ug/L.

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SECCHI DISC-CHLOROPHYLL A SELF-HELP PROGRAM

1986 SAMPLING RESULTS FOR LAKES IN THE CENTRAL REGION OF THE MINISTRY OF THE ENVIRONMENT

ISSN 0715-0261

1) ALLEN LAKE, Dudley & Harcourt Twps., Haliburton
2) ANSTRUTHER LAKE, Anstruther Twp., Peterborough
3) BALSAM LAKE, Bexley Twp., Victoria
4) BASS LAKE, Orillia & Oro Twps., Simcoe
5) BAT LAKE, Minden Twp., Haliburton
6) BEECH LAKE, Stanhope Twp., Haliburton
7) BELLA LAKE, Sinclair Twp., Twp. of Lake of Bays, Muskoka
8) BELMONT LAKE, Belmont & Methuen Twps., Peterborough
9) BIG BARNHAM LAKE, Dudley Twp., Haliburton
10) BIRCH BARK (TROUNCE) LAKE, Galway Twp., Peterborough
11) BLACK LAKE, Wood Ward, Twp. of Muskoka Lakes, Muskoka
12) BOSHKUNG LAKE, Stanhope Twp., Haliburton
13) BRADY LAKE, Anson & Minden Twps., Haliburton
14) BRUCE LAKE, Medora Ward, Twp. of Muskoka Lakes, Muskoka
15) BUCK LAKE, Stisted Ward, Town of Huntsville, Muskoka
16) CAMERON LAKE, Fenelon Twp., Victoria
17) CANNING LAKE, Minden & Snowdon Twps., Haliburton
18) CATCHACOMA LAKE, Cavendish Twp., Peterborough
19) CHANDOS LAKE, Chandos Twp., Peterborough
20) CLEAR LAKE, Lutterworth Twp., Haliburton
21) CLEARWATER LAKE, Morrison Ward, Town of Gravenhurst, Muskoka
22) CLEMENT LAKE, Monmouth Twp., Haliburton
23) CREGO LAKE, Somerville Twp., Victoria
24) CRYSTAL LAKE, Galway Twp., Peterborough
25) DAVIS LAKE, Lutterworth Twp., Haliburton
26) DEVILS LAKE, Lutterworth Twp., Haliburton
27) DOESKIN (DOE) LAKE, Muskoka Ward, Town of Gravenhurst, Muskoka
28) EAST LAKE, Harcourt Twp., Haliburton
29) FOUR MILE LAKE, Somerville Twp., Victoria
30) GEORGE'S LAKE, Harcourt Twp., Haliburton
31) GO HOME LAKE, Gibson Ward, Twp. of Georgian Bay, Muskoka
32) GULL LAKE, Lutterworth Twp., Haliburton
33) GULL LAKE, Muskoka Ward, Town of Gravenhurst, Muskoka
34) HALIBURTON LAKE, Harburn Twp., Haliburton
35) HALLS LAKE, Stanhope Twp., Haliburton
36) HARP LAKE, Chaffey Ward, Town of Huntsville, Muskoka
37) HEAD LAKE, Laxton & Digby Twps., Victoria
38) HORSESHOE (ELSIE) LAKE, Minden Twp., Haliburton
39) JACK LAKE, Burleigh & Methuen Twps., Peterborough
40) KAHSHE LAKE, Morrison Ward, Town of Gravenhurst, Muskoka
41) KASHAGAWIGAMOG LAKE, Dysart & Minden Twps., Haliburton
42) KAWAGAMA LAKE, Sherborne, Havelock, Livingston and McClintock Twps., Haliburton
43) KENNISIS LAKE, Havelock & Guilford Twps., Haliburton
44) KOSHLONG LAKE, Glamorgan Twp., Haliburton

SECCHI DISC-CHLOROPHYLL A SELF-HELP PROGRAM CONT'D

45) KUSHOG LAKE, Stanhope Twp., Haliburton
46) LAKE OF BAYS, Twp. of Lake of Bays, Muskoka
47) LAKE SCUGOG, Scugog Twp., Durham
48) LAKE ST. JOHN, Rama Twp., Simcoe
49) LEECH LAKE, Oakley Ward, Town of Bracebridge, Muskoka
50) LITTLE KENNISIS LAKE, Havelock Twp., Haliburton
51) LITTLE LAKE, Cramahe Twp., Northumberland
52) LITTLE LAKE, Wood Ward, Town of Gravenhurst, Muskoka
53) LITTLE STRAGGLE LAKE, Harcourt Twp., Haliburton
54) LONG LAKE, Dudley Twp., Haliburton
55) LONG LAKE, Harcourt Park, Haliburton
56) LOON LAKE, Monmouth Twp, Haliburton
57) LOON LAKE, Muskoka Ward, Town of Gravenhurst, Muskoka
58) LOONCALL LAKE, Burleigh Twp., Peterborough
59) MEDORA LAKE, Medora Ward, Twp. of Muskoka Lakes, Muskoka
60) MINDEN LAKE, Minden Twp., Haliburton
61) MISKWABI LAKE, Dudley Twp., Haliburton
62) MISSISSAGUA LAKE, Harvey & Cavendish Twps., Peterborough
63) MOOT LAKE, McLean Ward, Twp. of Lake of Bays, Muskoka
64) MORRISON LAKE, Wood Ward, Town of Gravenhurst, Muskoka
65) MOUNTAIN LAKE, Minden Twp., Haliburton
66) MULDREW LAKE, Muskoka, Wood & Morrison Wards, Town of Gravenhurst, Muskoka
67) MUSKOKA BAY, Muskoka Ward, Town of Gravenhurst, Muskoka
68) OAK LAKE, Belmont & Methuen Twps., Peterborough
69) OTTER LAKE, Sherborne Twp., Haliburton
70) PENINSULA LAKE, Sinclair & Franklin Wards, Twp. of Lake of Bays, Muskoka
71) PERCY LAKE, Harburn Twp., Haliburton
72) PINE LAKE, Muskoka & Wood Wards, Town of Gravenhurst, Muskoka
73) PINE LAKE, Oakley Ward, Town of Bracebridge, Muskoka
74) RIL LAKE, Ridout Ward, Twp. of Lake of Bays, Muskoka
75) SALERNO LAKE, Snowdon & Glamorgan Twps., Haliburton
76) SALMON LAKE, Cavendish Twp., Peterborough
77) SHADOW LAKE, Somerville Twp., Victoria
78) SILVER LAKE, Muskoka & Morrison Wards, Town of Gravenhurst, Muskoka
79) SIX MILE LAKE, Baxter Ward, Twp. of Georgian Bay, Muskoka
80) SKELETON LAKE, Cardwell, Stisted, Stephenson and Watt Wards, Twp. of Muskoka Lakes, Muskoka
81) SOUTH LAKE, Snowden Twp., Haliburton
82) SOYERS LAKE, Minden Twp., Haliburton
83) SPAR LAKE, Lutterworth Twp., Haliburton
84) SPARROW LAKE, Morrison Ward, Town of Gravenhurst, Muskoka
85) STURGEON LAKE, Fenelon Twp., Victoria
86) SUNNY LAKE, Morrision Ward, Town of Gravenhurst, Muskoka
87) TASSO LAKE, Finlayson Ward, Twp. of Lake of Bays, Muskoka
88) TWELVE MILE LAKE, Minden Twp., Haliburton
89) WASEOSA LAKE, Chaffey Ward, Town of Huntsville, Muskoka
90) WENONA (LITTLE DUDMON) LAKE, Dudley Twp., Haliburton
91) WOOD LAKE, Oakley Ward, Town of Bracebridge, Muskoka

ALLEN LAKE

DUDLEY & HARCOURT TWP.

COUNTY OF HALIBURTON

Table 1: Secchi disc (m) and chlorophyll a (ug/L) data collected from Allen Lake in 1986

Station	Main	
Date	S.D.	Chl.a
May 25	7.25	
June 8	5.5	1.3
June 15	6.0	2.1
June 22	5.25	2.0
July 1	5.0	2.3
July 13	5.0	2.8
July 20	4.75	3.0
July 27	5.00	2.4
Aug 4	5.5	5.5
Aug 10	5.25	1.8
Aug 17	6.25	1.1
Aug 24	5.75	1.4
Sept 1	7.0	1.6
	-----	-----
	5.65	2.3
	-----	-----

Once again, an excellent sampling program was done on Allen Lake, with 13 sampling occasions. The degree of water transparency was consistently high again this year, with Secchi disc readings ranging from 4.75 to 7.25 m. The chlorophyll a concentrations were somewhat higher this year, ranging from 1.1 to 5.5 ug/L. The highest densities of suspended algae occurred during July and early August. The overall water quality of Allen Lake continues to be excellent.

FIGURE 1: The relationship between Secchi disc and chlorophyll a for Allen Lake in 1986 and a number of recreational lakes in Central Region. All data are seasonal averages.

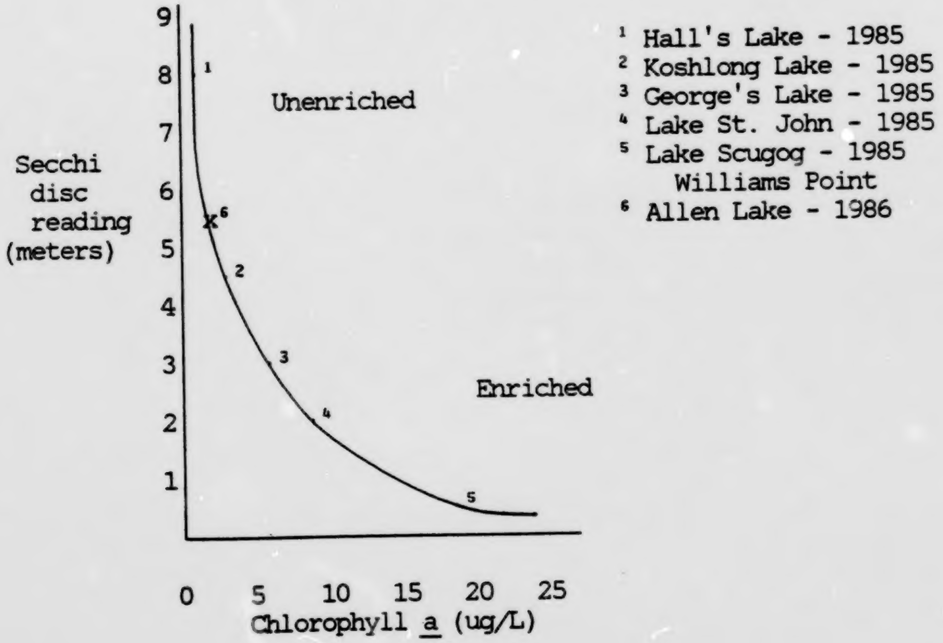
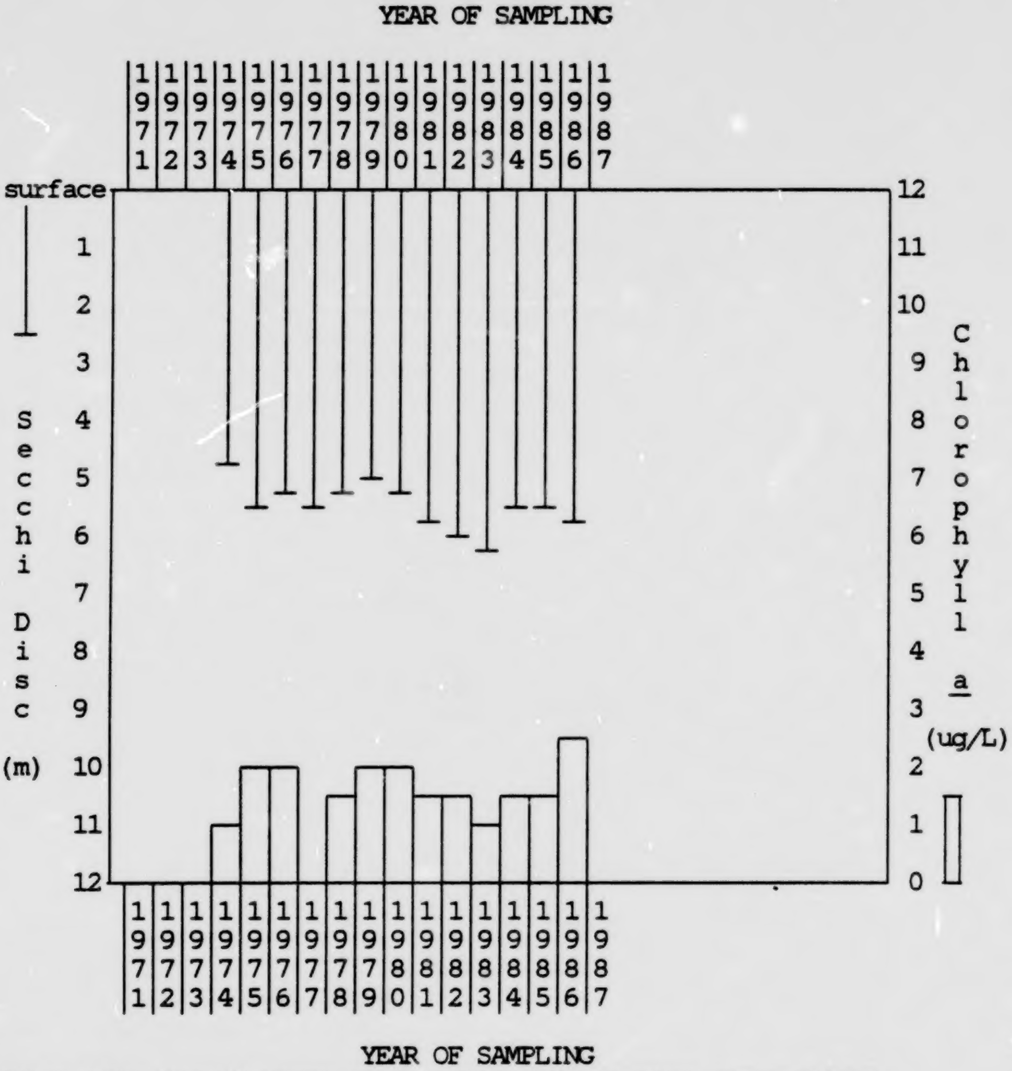


Figure 2 : Summary of results for Secchi disc (m) and chlorophyll a (ug/L) from Allen Lake from 1974 to 1986. Seasonal mean data (more than 6 sampling dates) only.



Allen lake has 12 years of reliable data forming an excellent long-term record of water quality.
There has been no overall change in water quality over this period of record with Secchi disc readings in the range of 5 to 6 m and chlorophyll a concentrations in the range of 1 to 2.3 ug/L.
The long-term data indicate that Allen lake can be considered unenriched and that the water quality continues to be very good.
We hope this excellent sampling effort will continue in 1987.

ANSTRUTHER LAKE

ANSTRUTHER TOWNSHIP

PETERBOROUGH COUNTY

Table 1: Seccchi Disc (m) and chlorophyll a (ug/L) data collected from Anstruther Lake in 1986.

Station	North End		South End	
Date	S.D.	Chl.a	S.D.	Chl.a
May 25	6.5	1.2	6.5	1.0
June 14	5.0	1.3	5.0	1.2
June 22	5.0	1.4	5.0	1.4
July 1	5.0	1.3	5.0	1.1
July 6	4.5	3.0	4.5	2.6
Aug 17	5.0	2.5	4.5	2.5
Sept 1	5.0	2.1	5.5	1.9
Oct 19	4.0		4.0	
	5.0	1.8	5.0	1.7

A good sampling program was done on Anstruther Lake in 1986, with sampling done on 8 occasions.
Secchi disc readings indicated a high degree of water transparency, ranging from 4.0 to 6.5 m. Chlorophyll a concentrations were moderately low for both sampling stations ranging from 1.0 to 3.0 ug/L. Based on these results, Anstruther Lake would be considered unenriched.

FIGURE 1: The relationship between Secchi disc and chlorophyll a for Anstruther Lake in 1986 and a number of recreational lakes in Central Region. All data are seasonal averages.

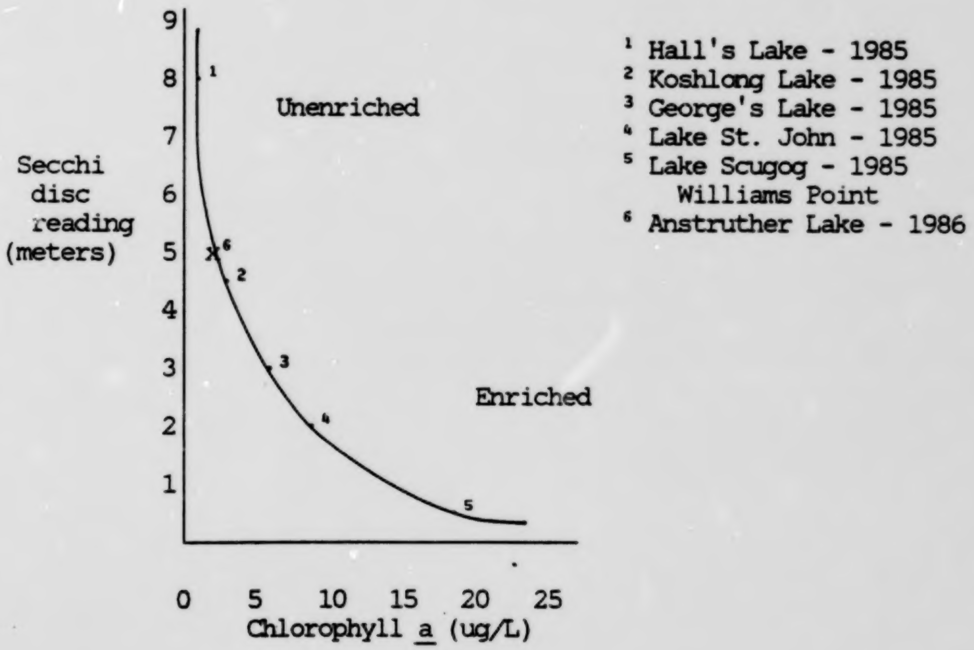
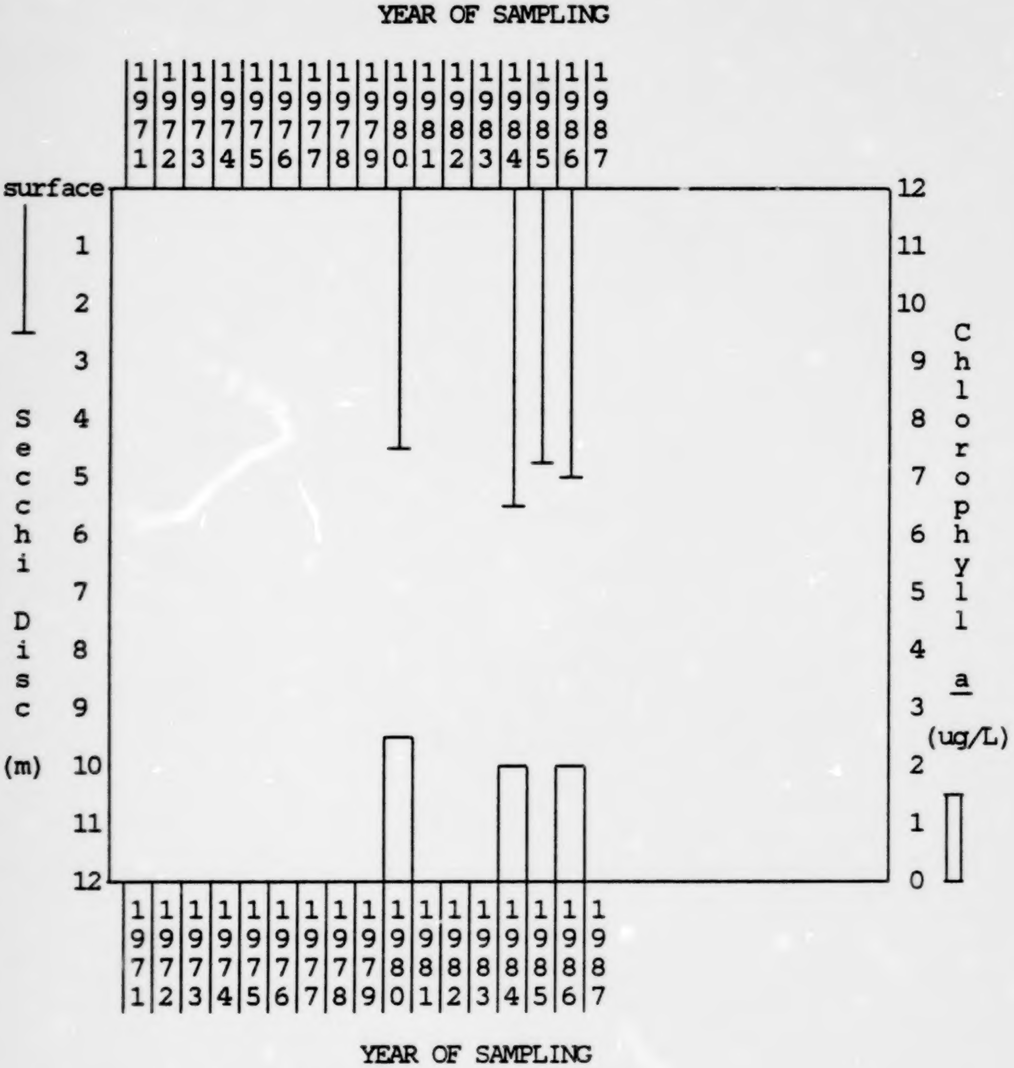
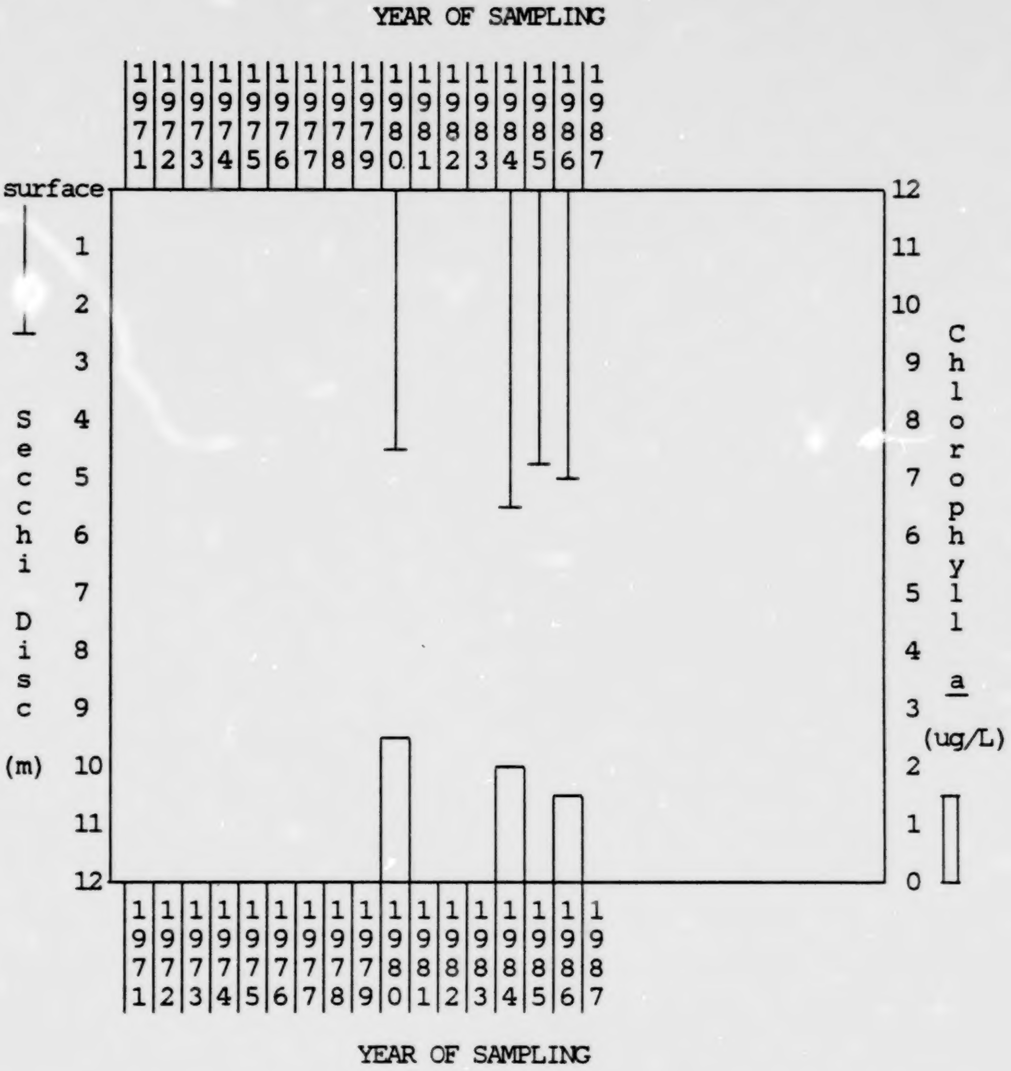


Figure 2 : Summary of results for Secchi disc (m) and chlorophyll a (ug/L) from Anstruther Lake (North End) from 1980 to 1986. Seasonal mean data (more than 6 sampling dates) only. A miniumum of 4 results were required for graphing.



Based on the three years of data available, Anstruther lake continues to be borderline between moderately enriched and unenriched conditions. The degree of water clarity continues to be moderate to high and the densities of suspended algae moderate to low.
We hope that sampling continues in 1987 in order to establish a long-term record of water quality for Anstruther lake.

Figure 2 : Summary of results for Secchi disc (m) and chlorophyll a (ug/L) from Anstruther Lake (South End) from 1980 to 1986. Seasonal mean data (more than 6 sampling dates) only. A minimum of 4 results were required for graphing.



There are 3 years of data available for Anstruther lake. The degree of water clarity continues to be moderate to high and the densities of suspended algae moderate to low. The lake continues to be borderline between moderately enriched and unenriched conditions.

We hope that sampling continues in 1987 in order to establish a long-term record of water quality for Anstruther lake.

BALSAM LAKE

BEXLEY TOWNSHIP

VICTORIA COUNTY

Table 1: Secchi Disc (m) and chlorophyll a (ug/L) data collected from Balsam Lake in 1986

Station	Station 3 Lightning Pt.		West Bay	
Date	S.D.	Chl.a	S.D.	Chl.a
June 21	5.0	L0.4		
July 6	4.0	1.6		
July 20	4.0	1.6	3.5	2.2
July 27			3.7	2.0
Aug 2	4.0	3.2		
Aug 4			4.2	1.9
Aug 10			4.6	2.9
Aug 16	4.5	1.6	4.8	2.6
Aug 31	4.0	2.1		
Sept 1			5.0	2.8
	4.3	L1.8	4.3	2.4

L - Less than (not included in average)

Sampling in 1986 was much more consistent, with 6 samples taken at each of Lightning Point and West Bay.
Secchi disc readings averaged 4.3 m for both stations, indicating a moderately high degree of water transparency. Chlorophyll a concentrations were 1.8 ug/L for Lightning Point, and 2.4 ug/L for West Bay, indicating that moderately low densities of suspended algae were present.
Based on the 1986 results, Balsam Lake would be considered borderline between moderately enriched and unenriched, with good water quality.

FIGURE 1: The relationship between Secchi disc and chlorophyll a for Balsam Lake in 1986 and a number of recreational lakes in Central Region. All data are seasonal averages.

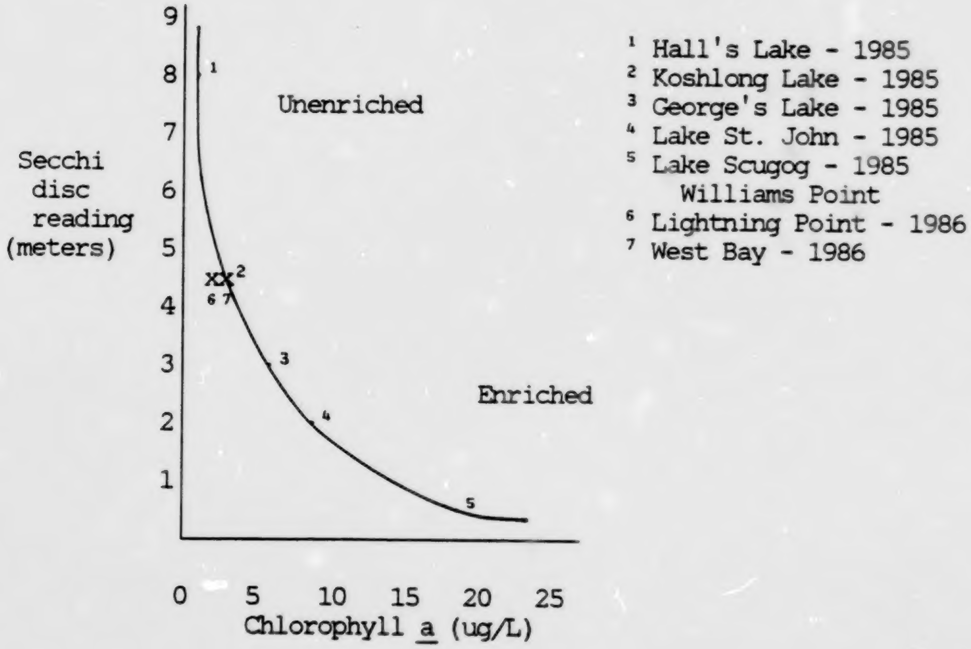
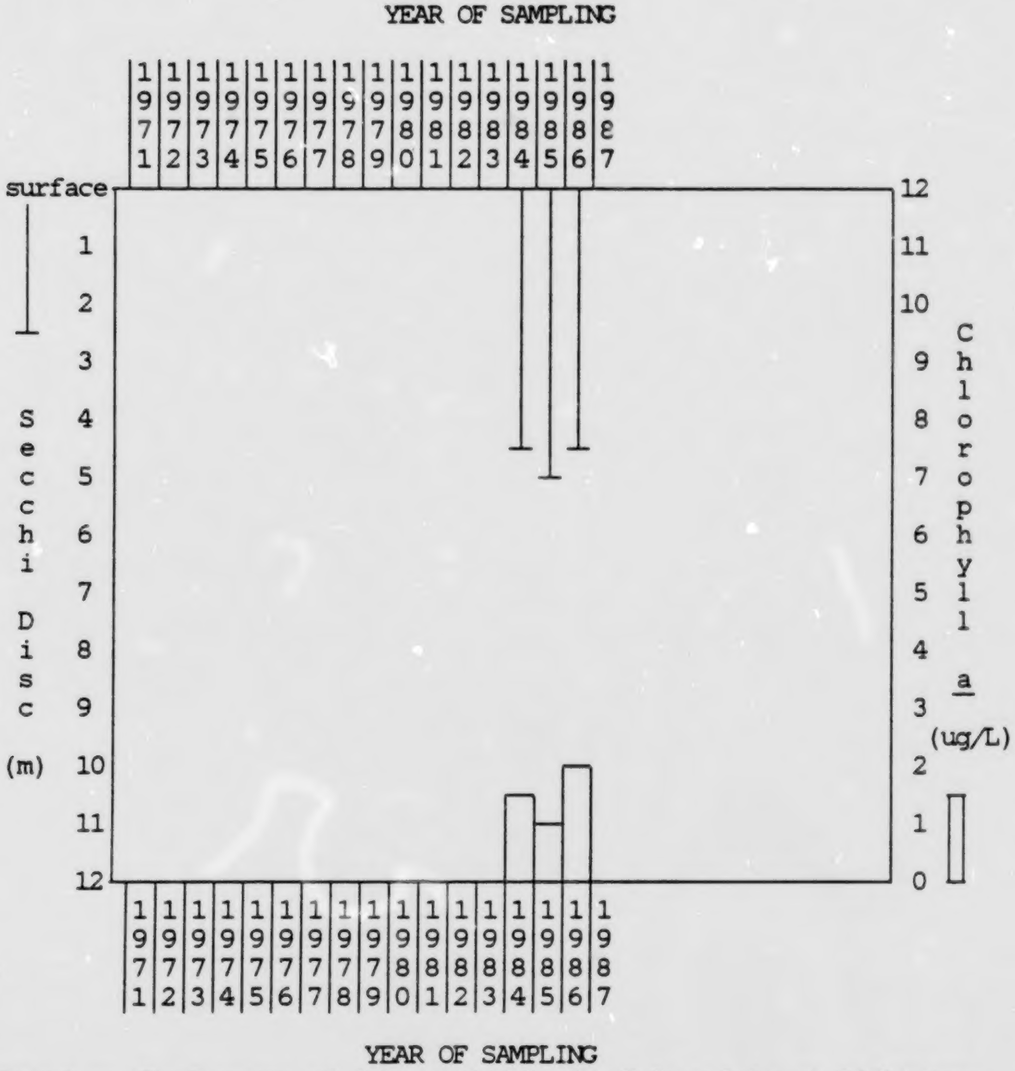


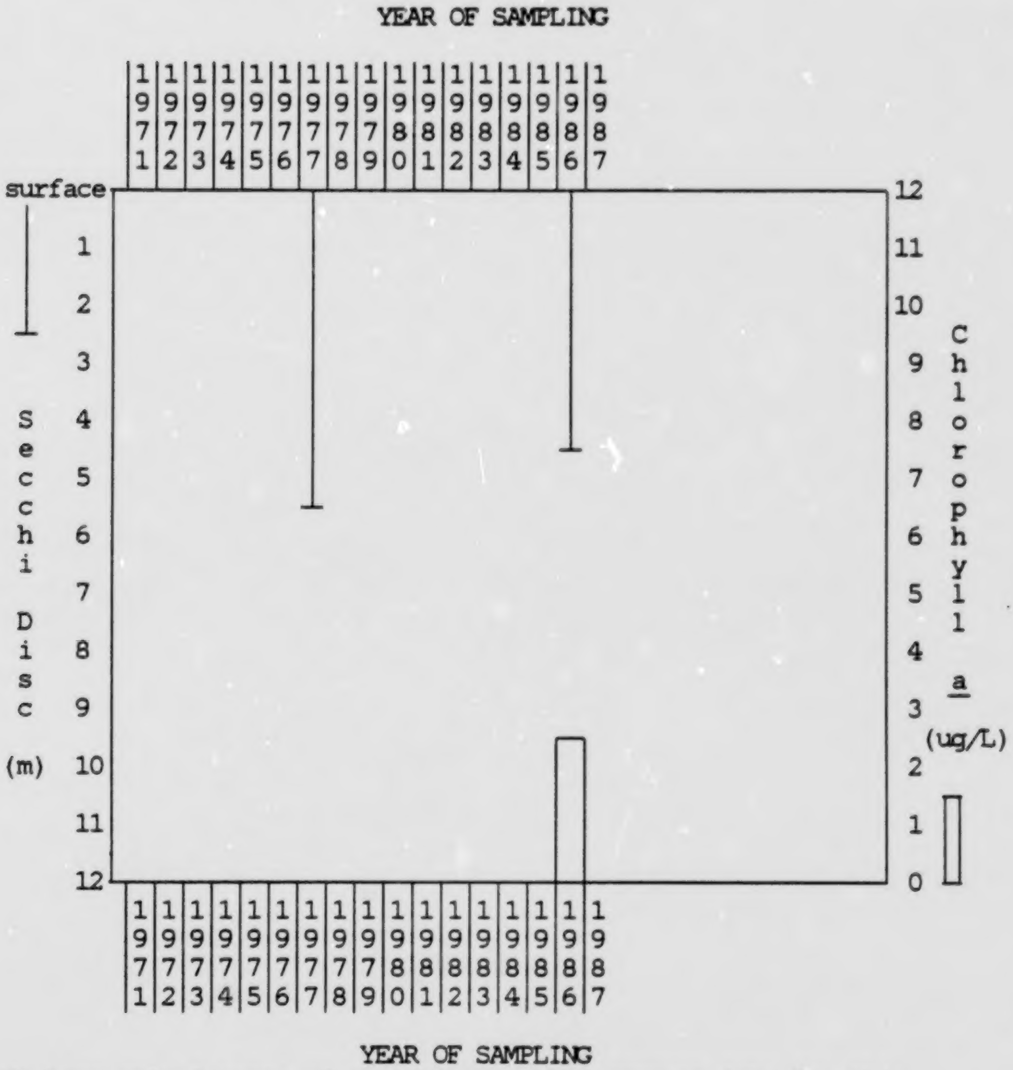
Figure 2 : Summary of results for Secchi disc (m) and chlorophyll a (ug/L) from Balsam Lake (Lightning Point) from 1984 to 1986. Seasonal mean data (more than 6 sampling dates) only.



Based on the 3 years of data available for Balsam Lake at Lightning Point, water quality continues to be very good. The degree of water clarity has been moderate to high and densities of suspended algae have been low.

We hope that sampling continues in 1987 in order to establish a good long-term record of water quality at this location.

Figure 2 : Summary of results for Secchi disc (m) and chlorophyll a (ug/L) from Balsam Lake (West Bay) for 1977 and 1986. Seasonal mean data (more than 6 sampling dates) unless otherwise specified. A minimum of 4 results were required for graphing.



We have only 2 years of reliable seasonal average data for this station. This is not sufficient to determine if there have been any significant changes in water quality. The results indicate a moderate degree of water clarity and moderately low densities of suspended algae.

We hope that sampling continues in 1987.

BASS LAKE

ORILLIA & ORO TOWNSHIPS

SIMCOE COUNTY

Table 1: Secchi Disc (m) and chlorophyll a (ug/L) data collected from Bass Lake 1986

Station	Main	
Date	S.D.	Chl.a
May 28	3.0	2.0
June 9	3.0	4.6
July 7	2.3	5.3
July 21	3.0	3.6
Aug 4	3.2	4.2
Aug 18	3.5	4.3
Sept 1	3.0	9.1
Sept 16	2.5	8.6
Sept 29	2.5	7.3
	3.1	5.4

Once again, an excellent sampling program was done on Bass Lake in 1986, with 9 sampling occasions. Secchi disc readings indicated a low to moderate degree of water clarity, ranging from 2.3 to 3.5 m and averaging 3.1 m. Chlorophyll a concentrations were variable, ranging from 2.0 to 9.1 ug/L and averaging 5.4 ug/L, indicating high densities of suspended algae.

The 1986 results indicate that Bass Lake is enriched with periodically high densities of suspended algae and low water clarity.

FIGURE 1: The relationship between Secchi disc and chlorophyll a for Bass Lake in 1986 and a number of recreational lakes in Central Region. All data are seasonal averages.

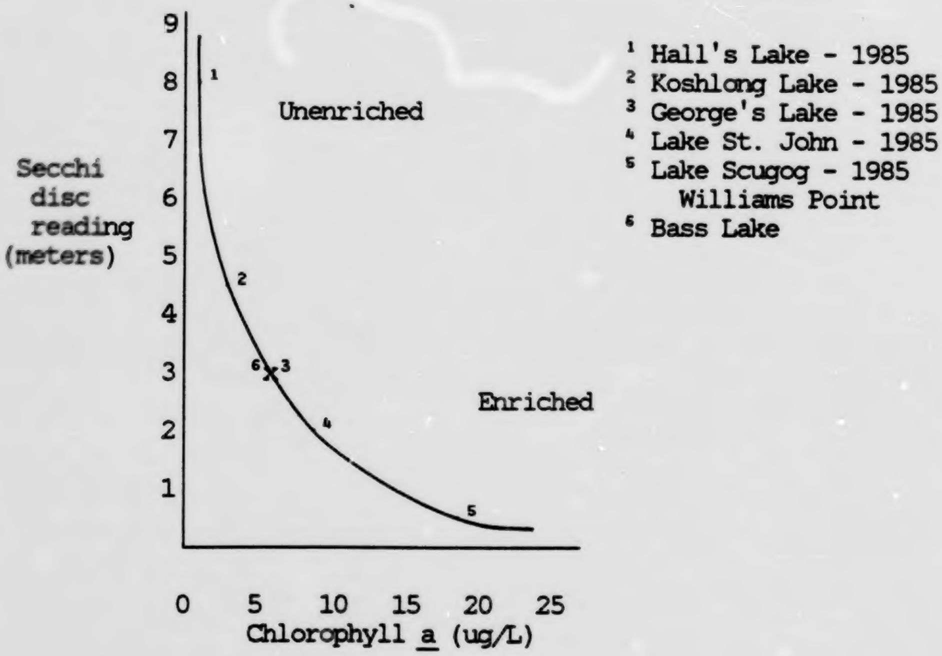
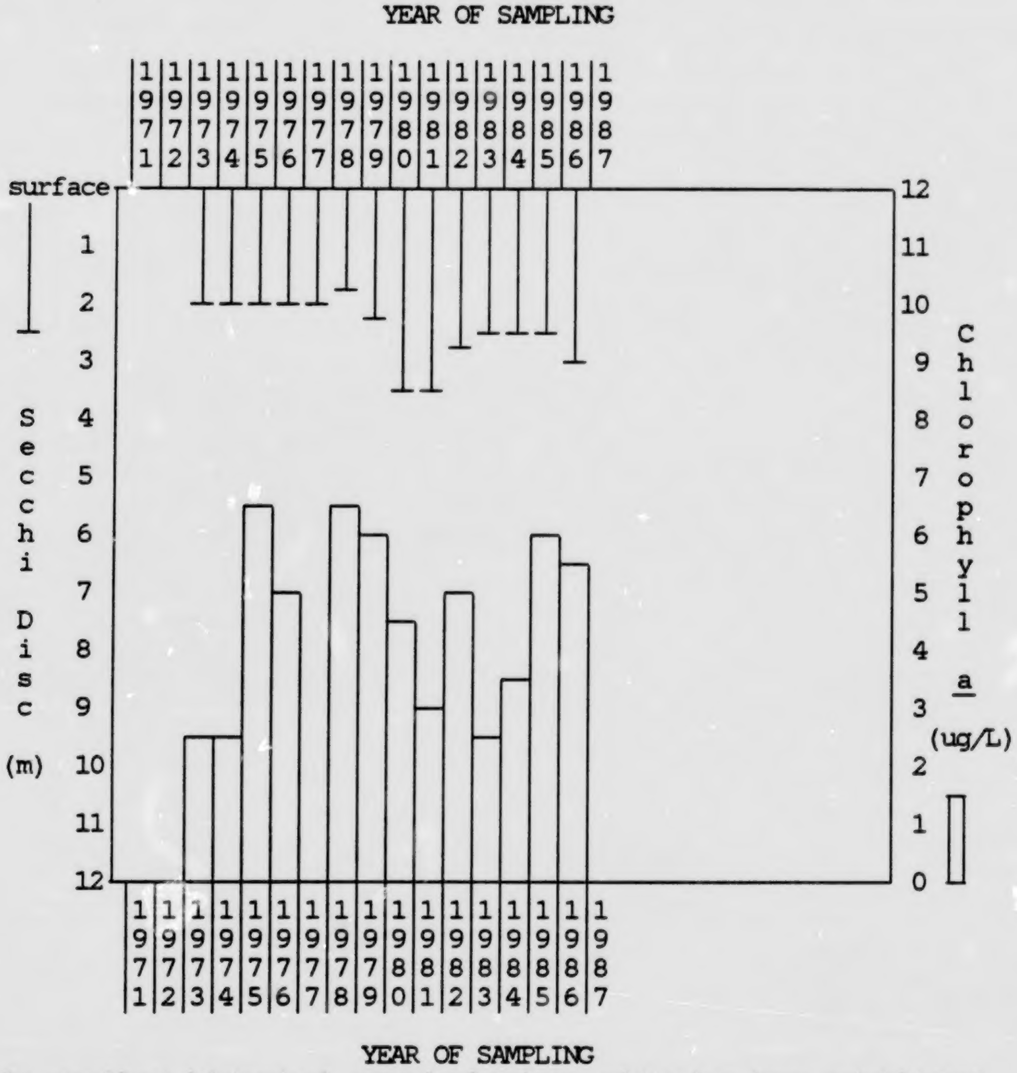


Figure 2 : Summary of results for Secchi disc (m) and chlorophyll a (ug/L) from Bass Lake in Simcoe from 1973 to 1986. Seasonal mean data (more than 6 sampling dates) only.



An excellent historical record of water quality has been established for Bass Lake in Simcoe county, with 15 years of reliable data. The degree of water clarity has been low for most of this period, except in 1980 and 1981 when the clarity was moderately low. Densities of suspended algae have been variable ranging from moderately low to high depending on the year. This is indicative of enriched water quality conditions.

There has been no noticeable trend to indicate a change in water quality in Bass Lake. We hope that sampling continues in 1987. Keep up the excellent work.

BAT LAKE

MINDEN TOWNSHIP

COUNTY OF HALIBURTON

Table 1: Secchi Disc (m) and chlorophyll a (ug/L) data collected from Bat Lake in 1986

Station	Centre	
Date	S.D.	Chl.a
June 15	1.75	14.6
June 21	1.5	7.7
June 29	1.25	11.9
July 6	1.5	13.2
July 19	3.0	CR
July 26	2.75	8.0
Aug 4	2.75	29.0
Aug 9	3.5	12.9
Aug 16	2.75	6.6
Aug 24	2.5	8.0
Aug 31	2.0	8.8
	-----	-----
	2.3	12.1
	-----	-----

An excellent sampling program was conducted on Bat Lake in 1986, with 11 sampling occasions. The degree of water transparency was low, with Secchi disc readings ranging from 1.25 to 3.5 m. The chlorophyll a concentrations were considerably higher than in 1985, averaging 12.1 ug/L. Water quality of Bat Lake in 1986 was typical of enriched lake conditions, with low clarity and high densities of suspended algae.

CR - No data: Could not perform confirming reanalysis

FIGURE 1: The relationship between Secchi disc and chlorophyll a for Bat Lake in 1986 and a number of recreational lakes in Central Region. All data are seasonal averages.

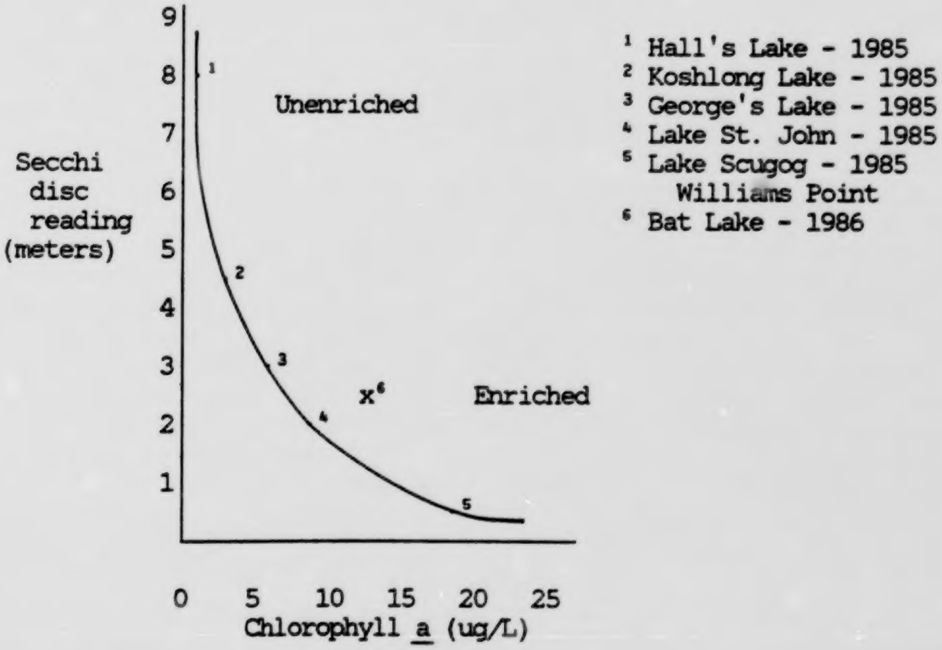
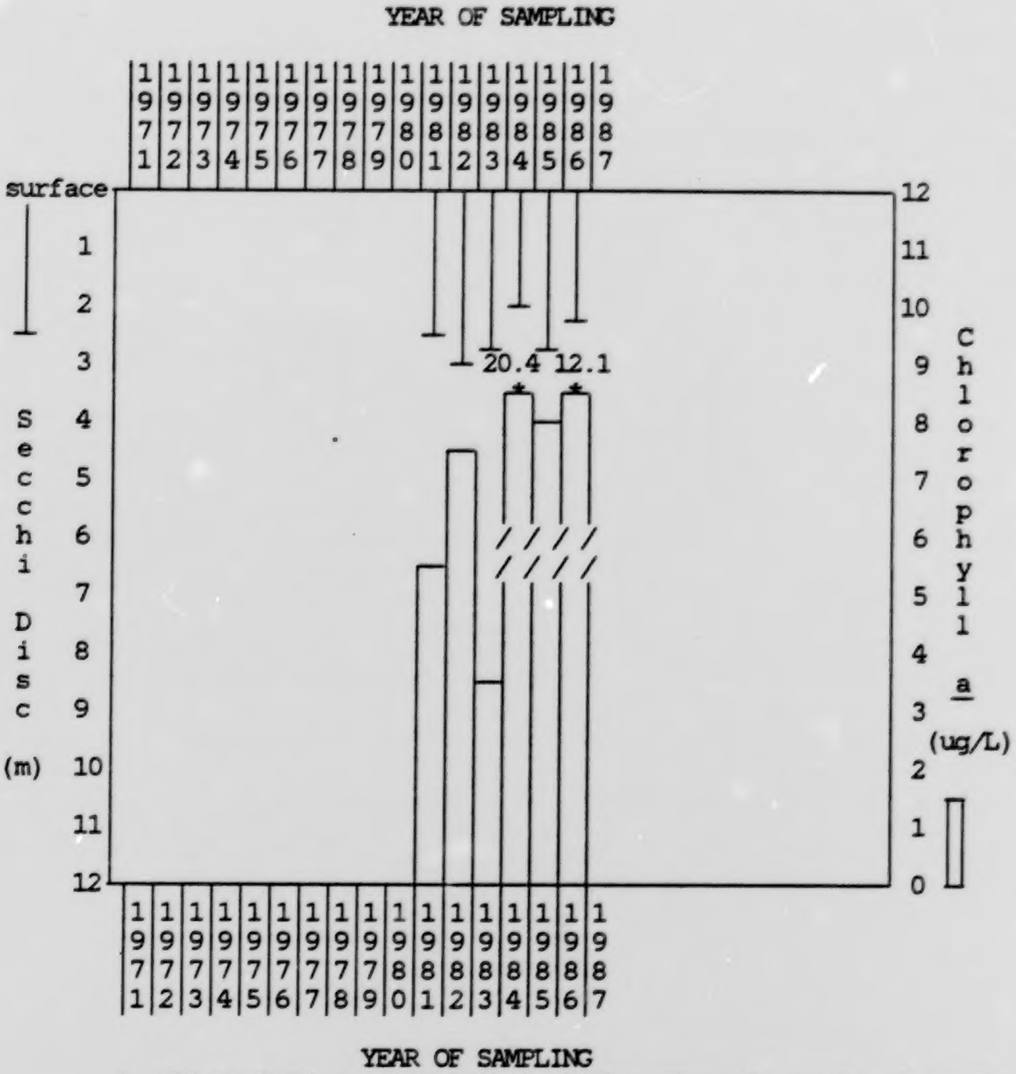


Figure 2 : Summary of results for Secchi disc (m) and chlorophyll a (ug/L) from Bat Lake from 1981 to 1986. Seasonal mean data (more than 6 sampling dates) only.



* Chlorophyll a concentration higher than the scale of graph

We now have 6 years of reliable seasonal information available for Bat Lake which indicate no overall change in the enrichment status. The degree of water transparency has been consistently low in the 2 to 3 m range. Densities of suspended algae have been highly variable as is often the case in enriched lakes with no limitation in nutrients. The extremely high densities of algae which occurred in 1984 did not recur in 1985 perhaps due to less than ideal weather conditions. High densities of algae were again observed in 1986, although they did not reach the extremely high levels observed in 1984. Bat Lake water quality reflects enriched conditions with low water clarity and periodically high densities of suspended algae.

BEECH LAKE

STANHOPE TOWNSHIP

COUNTY OF HALIBURTON

Table 1: Secchi Disc (m) and chlorophyll a (ug/L) data collected from Beech Lake in 1986

Station	Centre	
Date	S.D.	Chl.a
June 22	5.0	L 0.7
July 1	5.5	1.8
July 20	3.5	3.3
July 27	3.5	3.5
Aug 4	5.0	2.0
Aug 16	5.0	2.3
Sept 1	5.5	3.2
	4.7	L 2.4

L - Less than (not included in average)

A good sampling program was done on Beech Lake in 1986, with sampling done on 7 occasions. The degree of water transparency was moderately high with Secchi disc readings ranging from 3.5 to 5.5 m and averaging 4.7 m. The chlorophyll a concentrations were low to moderately low, ranging from 0.7 to 3.5 ug/L. Based on the 1986 results, Beech Lake would be considered moderately enriched with good water quality.

FIGURE 1: The relationship between Secchi disc and chlorophyll a for Beech Lake in 1986 and a number of recreational lakes in Central Region. All data are seasonal averages.

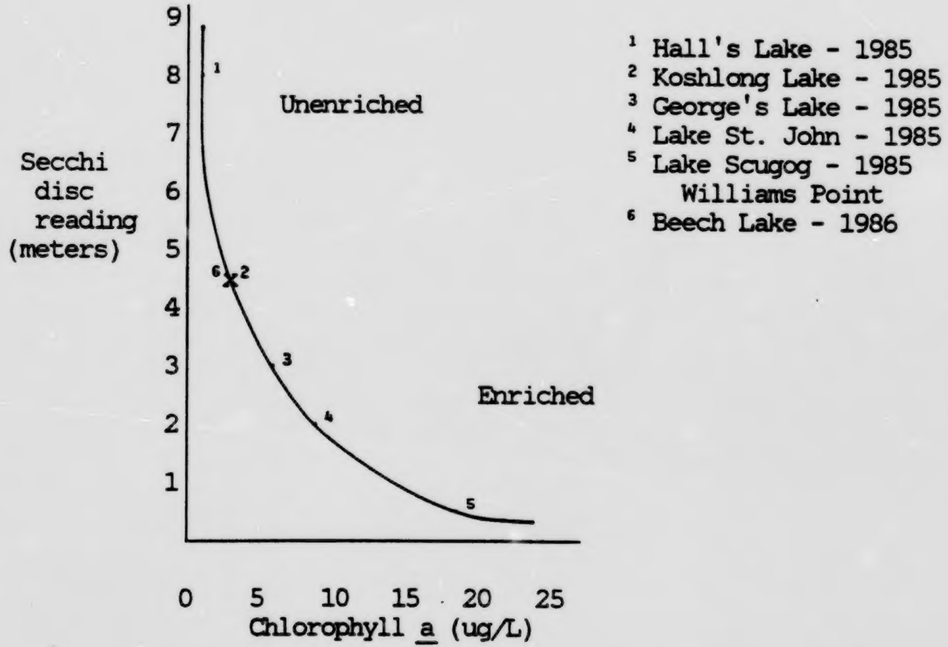
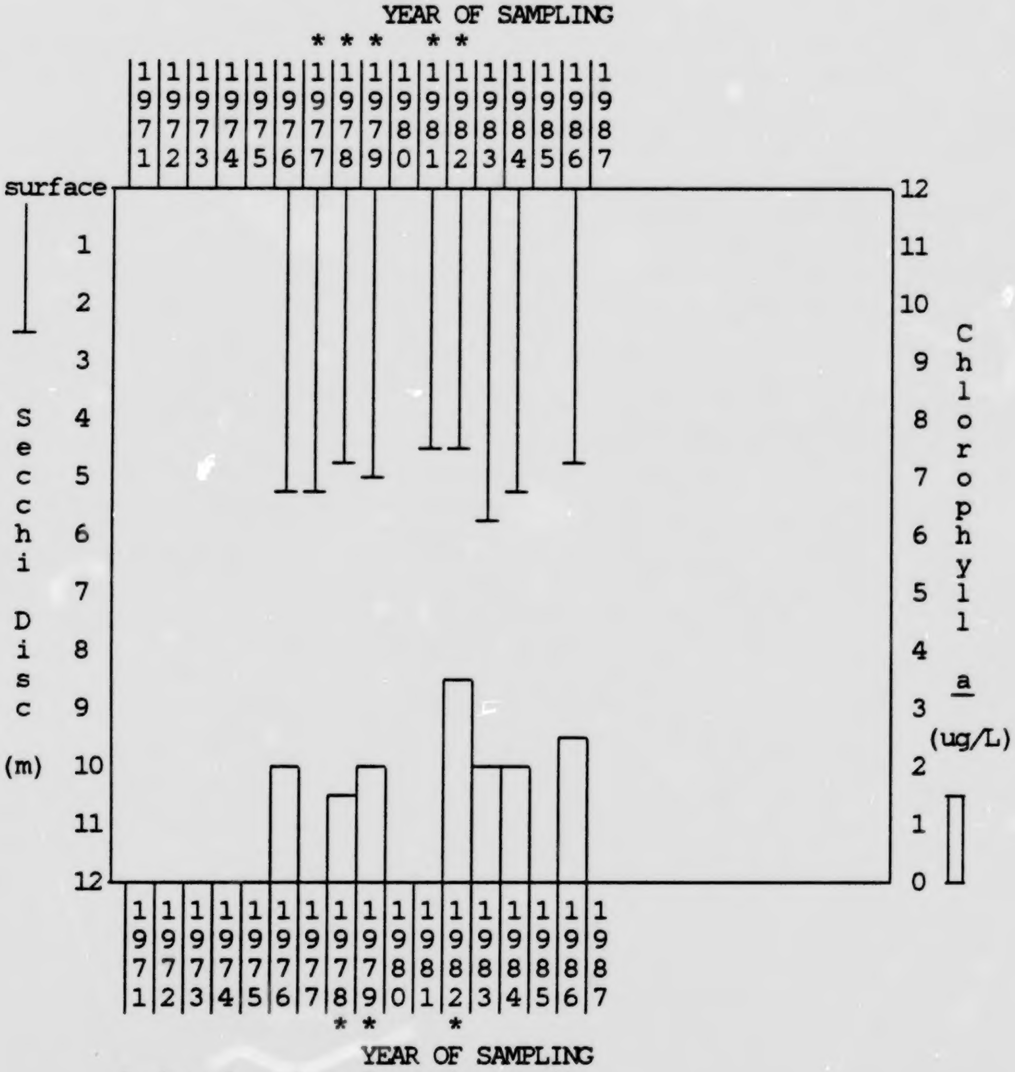


Figure 2 : Summary of results for Secchi disc (m) and chlorophyll a (ug/L) from Beech Lake from 1976 to 1986. Seasonal mean data (more than 6 sampling dates) unless otherwise specified. A minimum of 4 sample results was required for graphing.



* based on 4 or 5 sample results

There are now 8 years of data available for Beech Lake. These results indicate that there has been no overall change in water quality since 1976. Secchi disc readings have ranged from 4.5 to 6 m and chlorophyll a concentrations have usually been less than 2 ug/L except in 1983 and 1986.

The water quality of Beech Lake continues to be very good with conditions which usually reflect unenriched conditions.

We hope that sampling continues in 1987 in order to monitor any long-term changes in water quality.

BELLA LAKE

SINCLAIR TOWNSHIP
TOWNSHIP OF LAKE OF BAYS

DISTRICT MUNICIPALITY OF
MUSKOKA

Table 1: Secchi Disc (m) and chlorophyll a (ug/L) data collected from Bella Lake in 1986

Station	Centre		West End	
Date	S.D.	Chl.a	S.D.	Chl.a
July 20	7.0	1.5	7.0	1.1
July 27	8.0	1.8	8.0	1.6
Aug 10	7.0	3.5	7.0	3.0
Aug 29	3.25	2.2	3.25	2.2
Aug 31	7.5	2.1	7.5	1.3
	6.6	2.2	6.6	1.8

Bella Lake was sampled on 5 occasions in 1986, in two locations. The degree of water transparency was high at both stations, with an average Secchi disc reading of 6.6 m.

Chlorophyll a concentrations were moderately low, ranging from 1.5 to 3.5 ug/L in the Centre and from 1.1 to 3.0 ug/L in the West End, indicating low densities of suspended algae.

For 1987, we recommend that sampling frequency be increased to 6 times per year, if possible, for a more reliable mean.

FIGURE 1: The relationship between Secchi disc and chlorophyll a for Bella Lake in 1986 and a number of recreational lakes in Central Region. All data are seasonal averages.

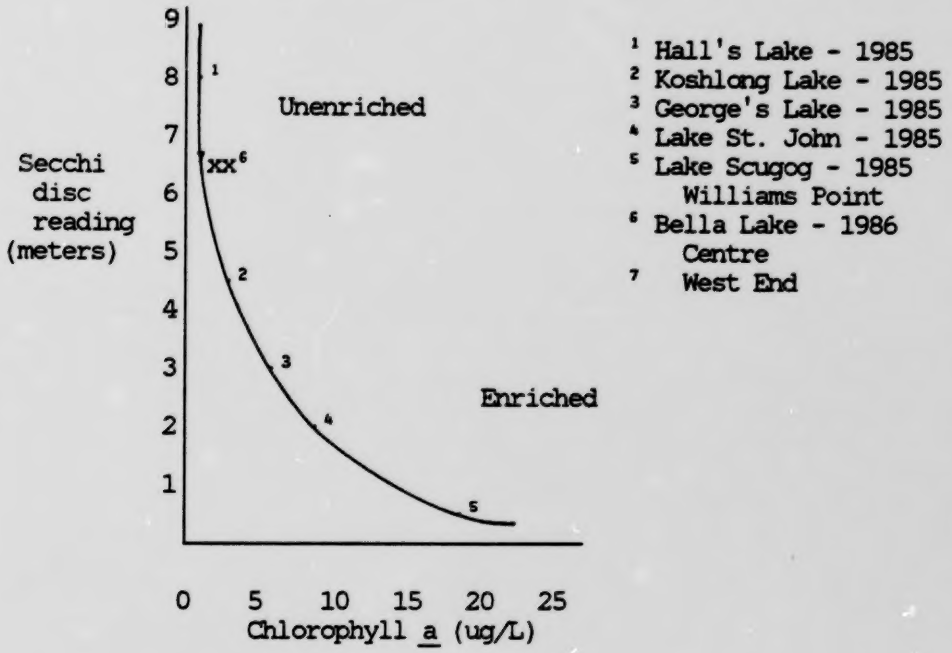
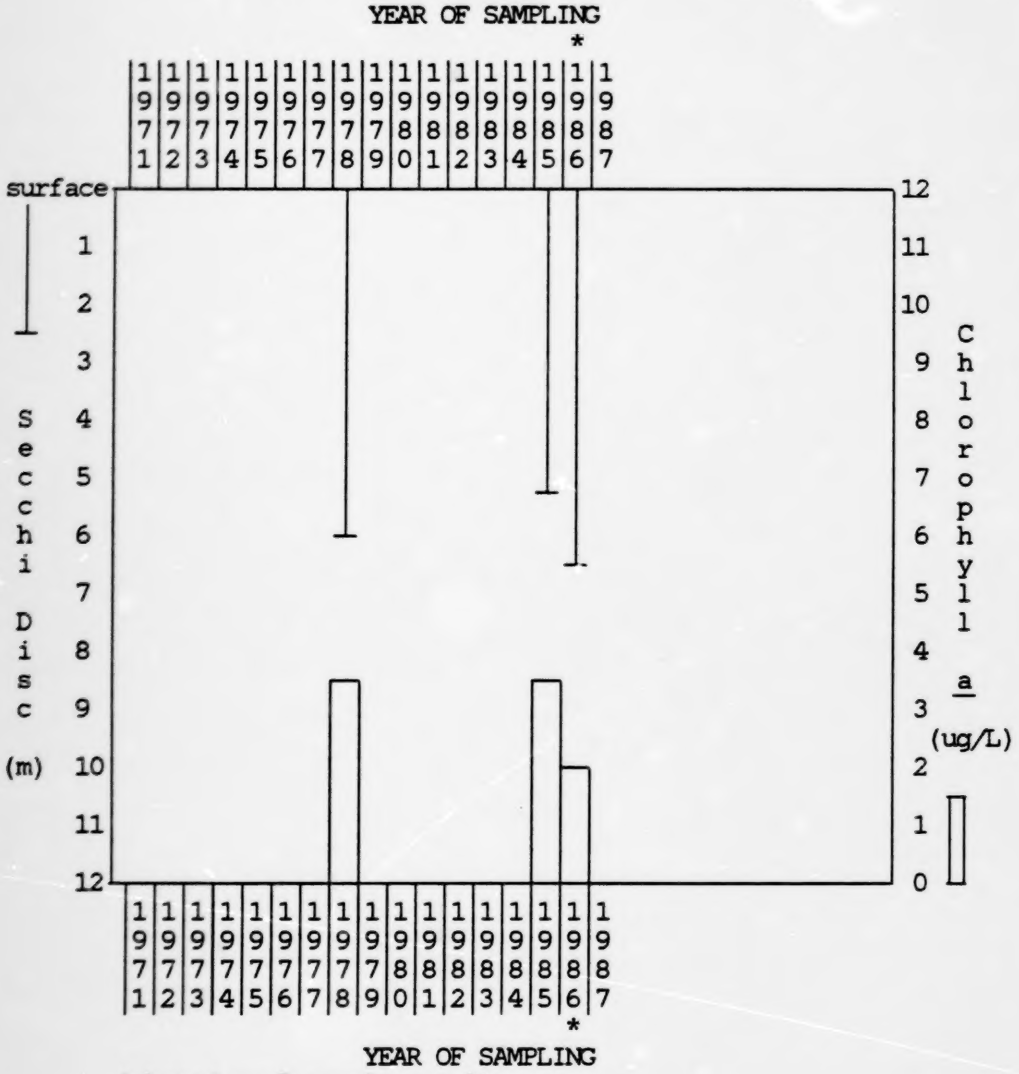


Figure 2 : Summary of results for Secchi disc (m) and chlorophyll a (ug/L) from Bella Lake (Centre) from 1978 to 1985 (MOE data), and 1986. A minimum of 4 results was required for graphing.

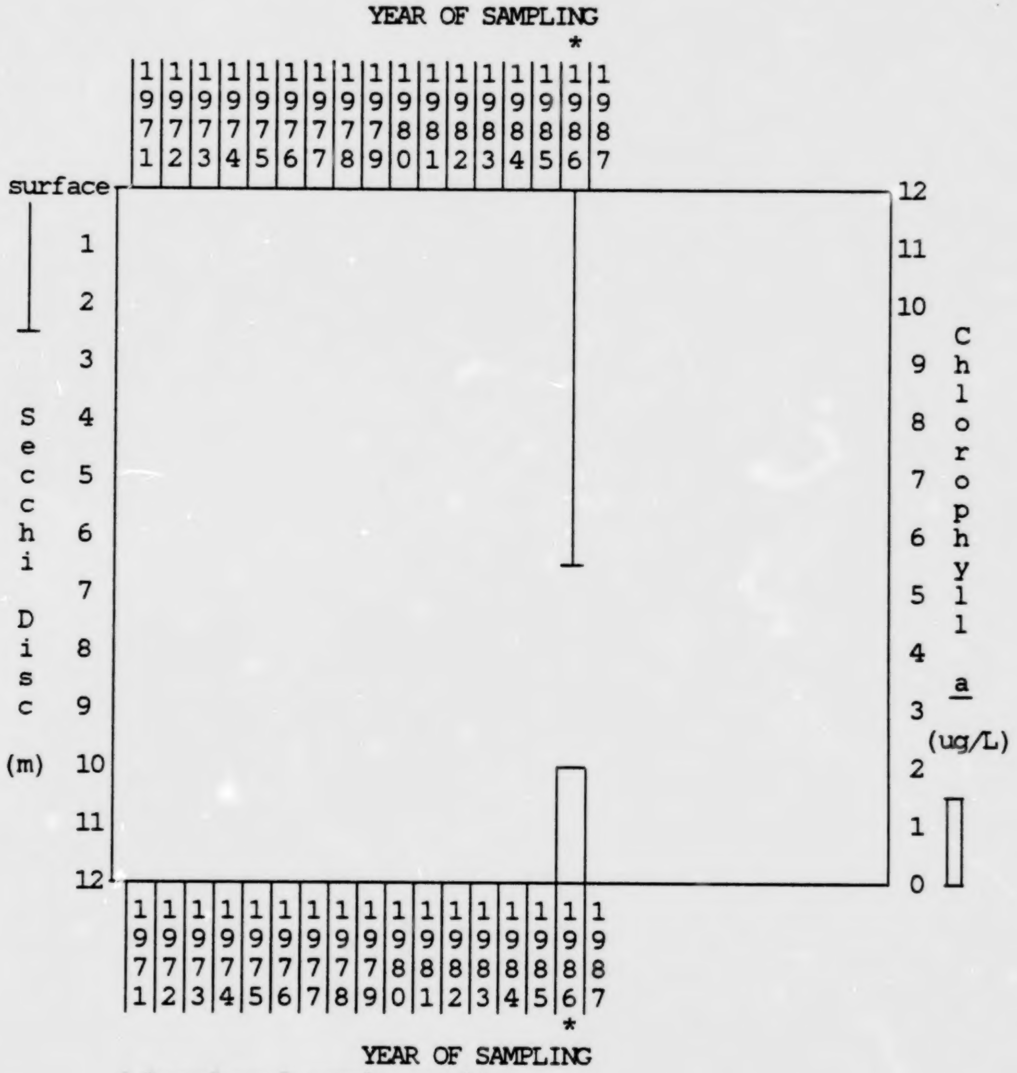


* based on 5 sample results

Insufficient sampling was done in 1985 for the Self Help Program to include the information on Figure 2, however, MOE has sampled Bella Lake in 1978 and 1985 and these results have been graphed, along with the 1986 results.

There are no major differences between years, with a high degree of water transparency observed and moderate to low densities of suspended algae. Water quality of Bella Lake continues to be good with densities of suspended algae in 1986 more consistent with those usually found in an unenriched lake.

Figure 2 : Summary of results for Secchi disc (m) and chlorophyll a (ug/L) from Bella Lake (West End) in 1986. Seasonal mean data (more than 6 sampling dates) unless other wise specified. A minimum of 4 results was required for graphing.



* based on 5 sample results

Since 1986 was the first year of sampling for the West End station of Bella Lake, we are unable to comment on the long term water quality trends. We hope that sampling at this station continues for several years in order to establish a long term record of water quality.

BELMONT LAKE

BELMONT & METHUEN TOWNSHIPS

PETERBOROUGH COUNTY

Table 1: Secchi Disc (m) and chlorophyll a (ug/L) data collected from Belmont Lake in 1986

Station	Near Entrance To Crowe River	
Date	S.D.	Chl.a
May 21	4.25	L 0.7
June 3	3.25	SB
June 9	4.5	L 0.9
June 23	2.75	1.5
June 30	2.75	1.6
July 7	2.5	3.6
Aug 11	3.0	1.2
Aug 18	3.5	2.0
	3.3	L 1.6

L - Less than (not included in average)

SB - Sample broken in transit

A good sampling program was done on Belmont Lake in 1986, with 8 sampling occasions. Secchi disc readings ranged from 2.5 to 4.5 m and averaged 3.3 m, indicating a moderate degree of water clarity. Chlorophyll a concentrations were low, ranging from less than 0.7 ug/L to 3.6 ug/L and averaging less than 1.6 ug/L. Based on the chlorophyll results, Belmont Lake would be considered unenriched, however the degree of water clarity was more typical of a moderately enriched lake. The lower water clarity may be partly due to the natural colouration of the water in this lake.

FIGURE 1: The relationship between Secchi disc and chlorophyll a for Belmont Lake in 1986 and a number of recreational lakes in Central Region. All data are seasonal averages.

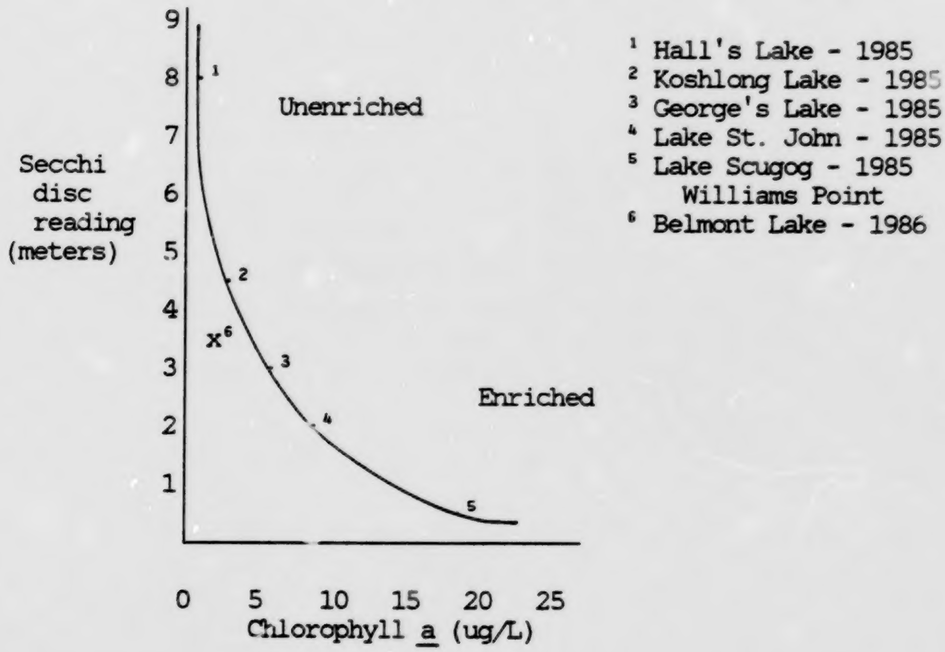
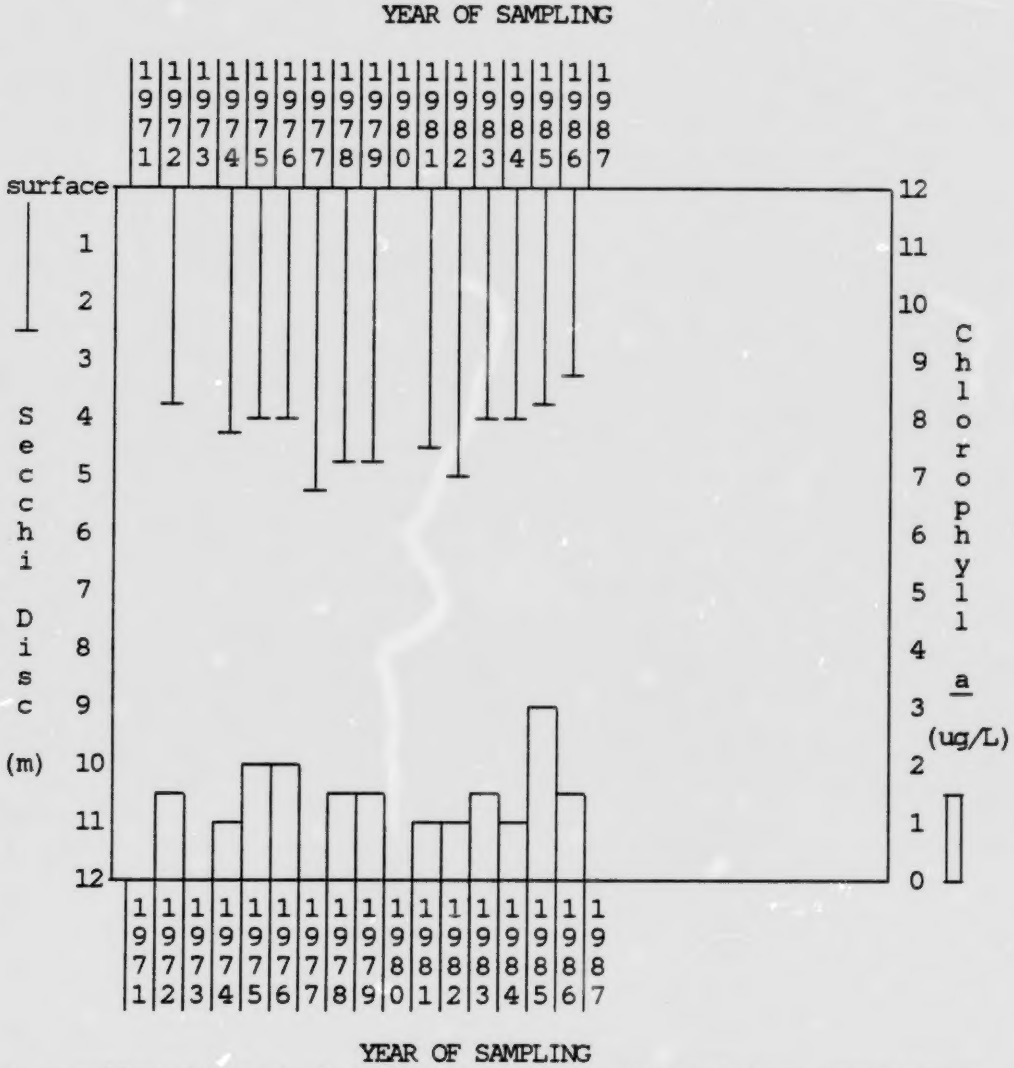


Figure 2 : Summary of results for Secchi disc (m) and chlorophyll a (ug/L) from Belmont Lake from 1972 to 1986. Seasonal mean data (more than 6 sampling dates) only.



An excellent historical record of water quality has been established for Belmont Lake with 14 years of reliable seasonal average data. The degree of water transparency has ranged from moderate to high for the period of record and the densities of suspended algae have generally been low except for 1985 when moderate densities of algae were observed. This would appear to be unusual for Belmont Lake. The degree of water transparency was moderate and the densities of suspended algae were again low in 1986.

We recommend that sampling be continued in 1987 to continue to monitor water quality.

BIG BARNHAM LAKE

DUDLEY TOWNSHIP

COUNTY OF HALIBURTON

Table 1: Secchi Disc (m) and chlorophyll a (ug/L) data collected from Big Barnham Lake in 1986

Station	Main	
Date	S.D.	Chl.a
June 15	7.0	1.2
June 30	5.5	EF
Aug 10	6.5	2.6
Sept 7	9.0	1.8
Sept 28	7.5	1.6
	7.1	1.8

EF - Laboratory equipment failure.

Big Barnham Lake was sampled on 5 occasions in 1986.
The degree of water transparency was high, with Secchi disc readings ranging from 5.5 to 7.0 m and averaging 7.1 m.
The chlorophyll a concentrations were low, ranging from 1.2 to 2.6 ug/L and averaging 1.8 ug/L, indicating low densities of suspended algae.
Based on the 1986 results, Big Barnham lake would be considered unenriched, with good water quality.

FIGURE 1: The relationship between Secchi disc and chlorophyll a for Big Barnham Lake in 1986 and a number of recreational lakes in Central Region. All data are seasonal averages.

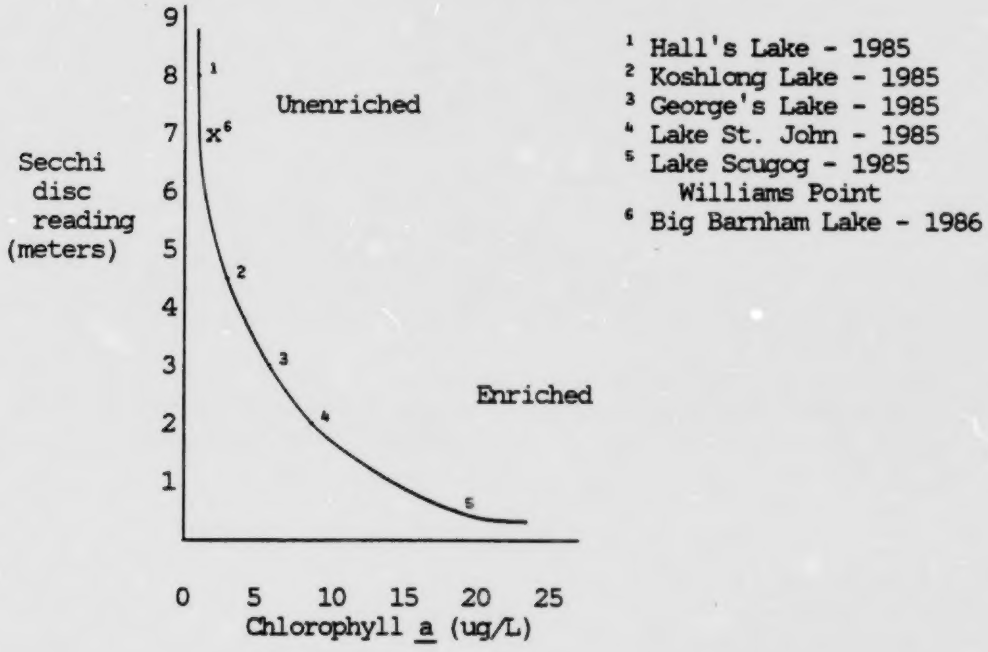
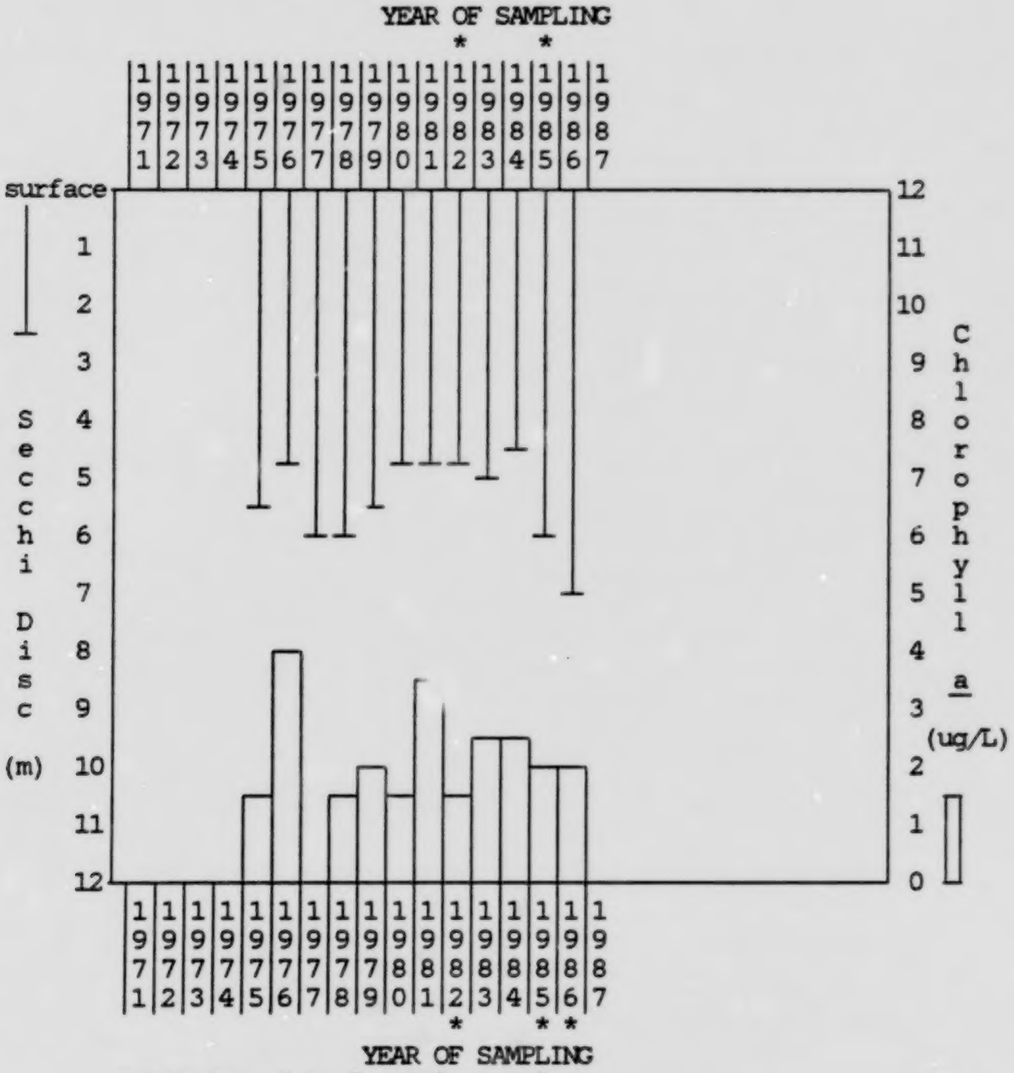


Figure 2 : Summary of results for Secchi disc (m) and chlorophyll a (ug/L) from Big Barnham Lake from 1975 to 1986. Seasonal mean data (more than 6 sampling dates) unless otherwise specified. A minimum of 4 results was required for graphing.



* based on 4 or 5 sample results.

We now have 11 years of data available for Big Barnham Lake. These results indicate no overall changes in water quality.

Secchi disc readings fluctuated around 5 m with the highest degree of water clarity observed in 1986. Densities of suspended algae have ranged from 1.5 to 4.0 ug/L with the highest densities of algae observed in 1976 and 1981.

Water quality of Big Barnham Lake continues to be indicative of moderately enriched conditions with a moderately high degree of water transparency and low to moderate densities of suspended algae.

BIRCH BARK (TROUNCE) LAKE

GALWAY TOWNSHIP

PETERBOROUGH COUNTY

Table 1: Secchi Disc (m) and chlorophyll a (ug/L) data collected from Birch Bark Lake in 1986

Station	1	
Date	S.D.	Chl.a
June 15	4.3	1.0
June 22	5.0	L 0.5
July 6	4.5	4.1
July 20	4.8	3.8
July 27	5.4	3.7
Aug 10	4.7	3.2
	4.7	L 2.7

L - Less than (not included in average)

Birch Bark Lake was sampled on 6 occasions in 1986. The results indicated that the lake had a high degree of water transparency, with Secchi disc readings ranging from 4.3 to 5.4 m and averaging 4.7 m. Chlorophyll a concentrations varied from less than 0.5 to 4.1 ug/L and averaging 2.7 ug/L. These results indicate that Birch Bark Lake would be considered moderately enriched.

FIGURE 1: The relationship between Secchi disc and chlorophyll a for Birch Bark Lake in 1986 and a number of recreational lakes in Central Region. All data are seasonal averages.

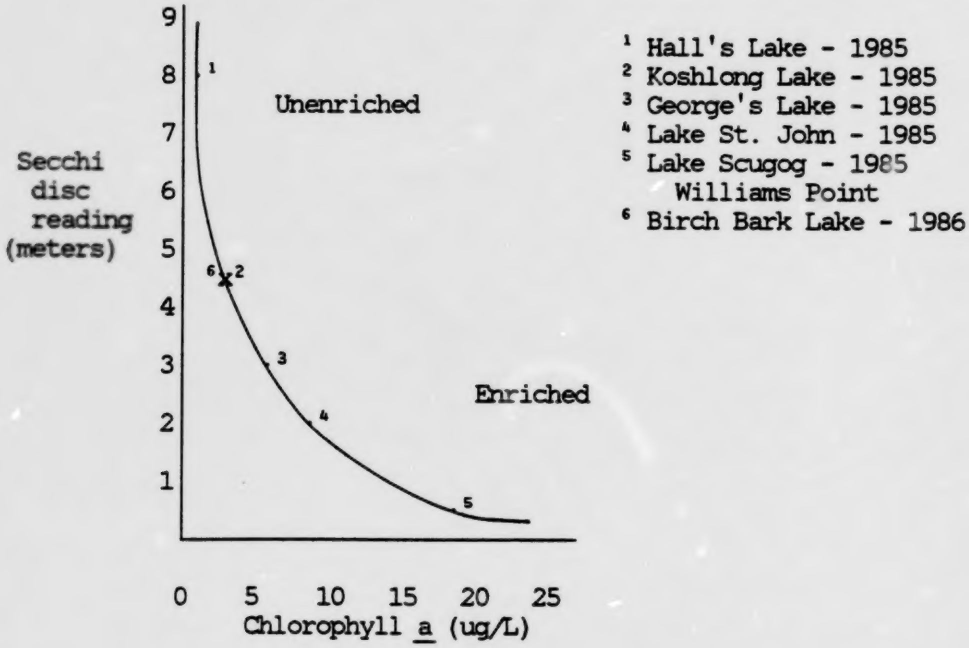
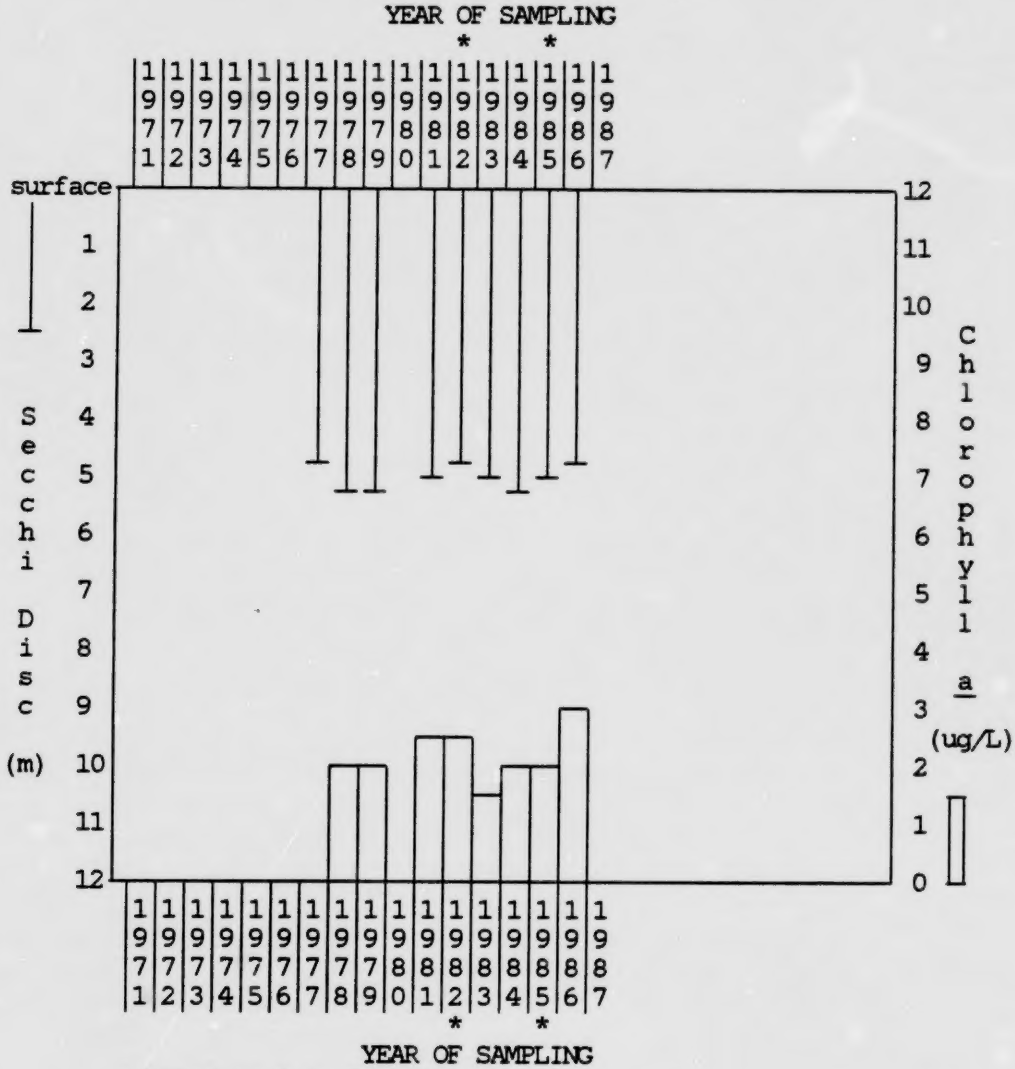


Figure 2 : Summary of results for Secchi disc (m) and chlorophyll a (ug/L) from Birch Bark Lake from 1977 to 1986. Seasonal mean data (more than 6 sampling dates) unless otherwise specified. A minimum of 4 results was required for graphing.



* based on 4 or 5 results

A good record of water quality has been established for Birch Bark Lake with 9 years of data.

The degree of water clarity has been moderately high for the period of record with no apparent changes observed since 1977.

Densities of suspended algae have been low to moderate since 1977 with no apparent trends to indicate a change in water quality.

We hope that sampling continues in 1987 so that a continuous long-term record of water quality for Birch Bark Lake can be maintained.

BLACK LAKE

WOOD WARD
TOWNSHIP OF MUSKOKA LAKES

DISTRICT MUNICIPALITY OF MUSKOKA

Table 1: Secchi Disc (m) and chlorophyll a (ug/L) data collected from Black Lake in 1986

Station	South		North	
Date	S.D.	Chl.a	S.D.	Chl.a
May 25	1.5	UR	1.5	L0.7
June 1	0.5	4.7	0.5	4.2
June 8	1.5	4.3	1.5	4.6
July 13	1.5	19.2	1.5	9.0
July 20	1.5	6.1	1.5	5.6
July 28	1.5	8.5		
ug 5	1.5	NSS	1.5	5.7
Aug 11	1.5	12.7	1.5	14.1
Aug 18	1.5	9.4	1.5	8.5
Aug 24	1.5	9.0	1.5	8.9
Sept 1	1.5	10.4	1.5	9.1
Sept 7	1.5	5.5	1.5	5.3
	1.5	9.0	1.5	L6.9

NSS - No suitable sample.
UR - Unreliable sample result
L - Less than (not included in average)

An excellent sampling program was conducted again on Black Lake, with 12 sampling occasions. The Secchi disc readings at both the North and South stations averaged 1.5 m. These results indicate a low degree of water transparency. Chlorophyll a concentrations ranged from 4.3 to 19.2 ug/L at the North station, and from less than 0.7 to 14.1 ug/L at the South station. These results indicate that high densities of suspended algae are present. From the 1986 results, Black Lake would be considered an enriched lake.

FIGURE 1: The relationship between Secchi disc and chlorophyll a for Black Lake in 1986 and a number of recreational lakes in Central Region. All data are seasonal averages.

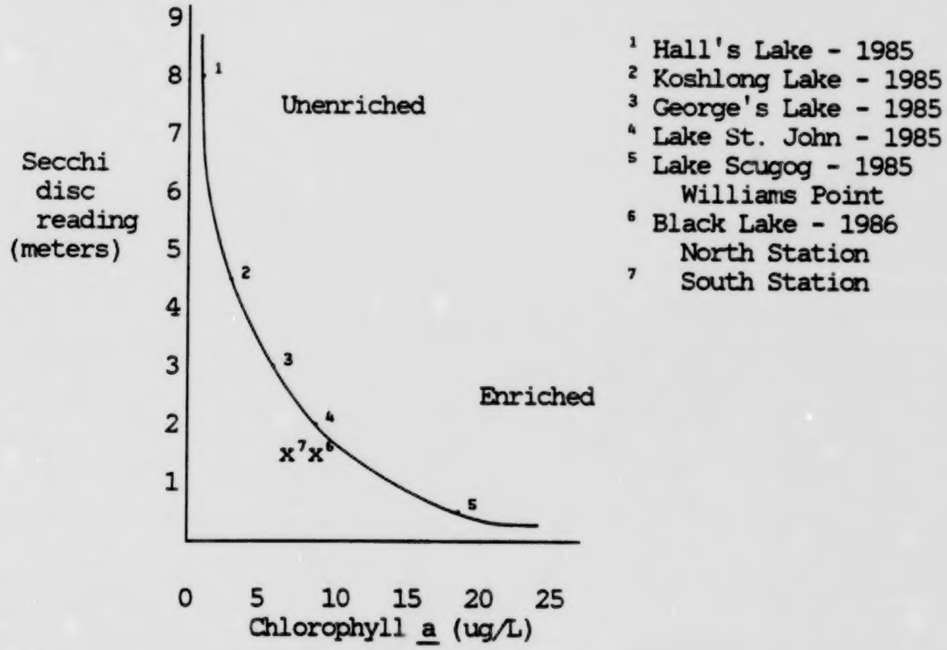
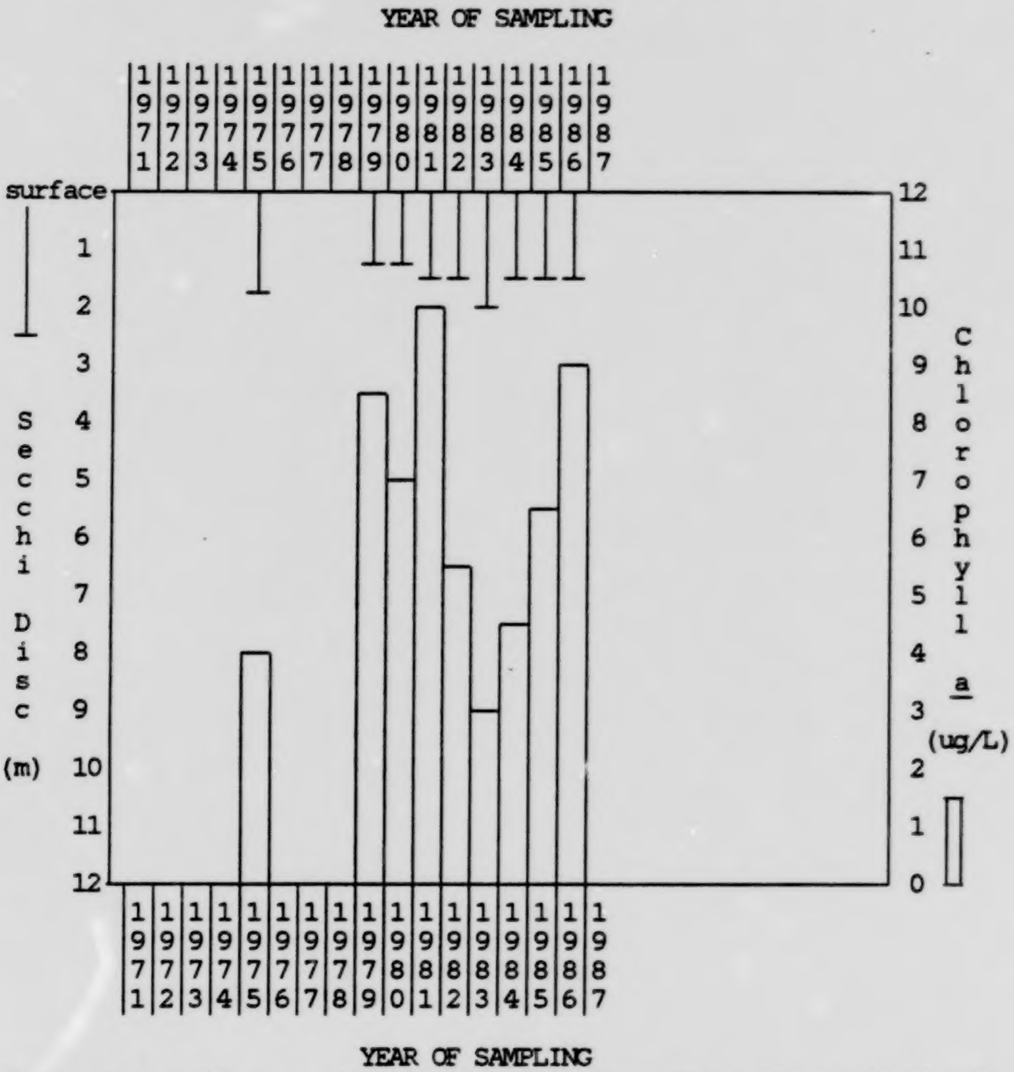


Figure 2 : Summary of results for Secchi disc (m) and chlorophyll a (ug/L) from Black Lake (South station) from 1975 to 1986. Seasonal mean data (more than 6 sampling dates) only.

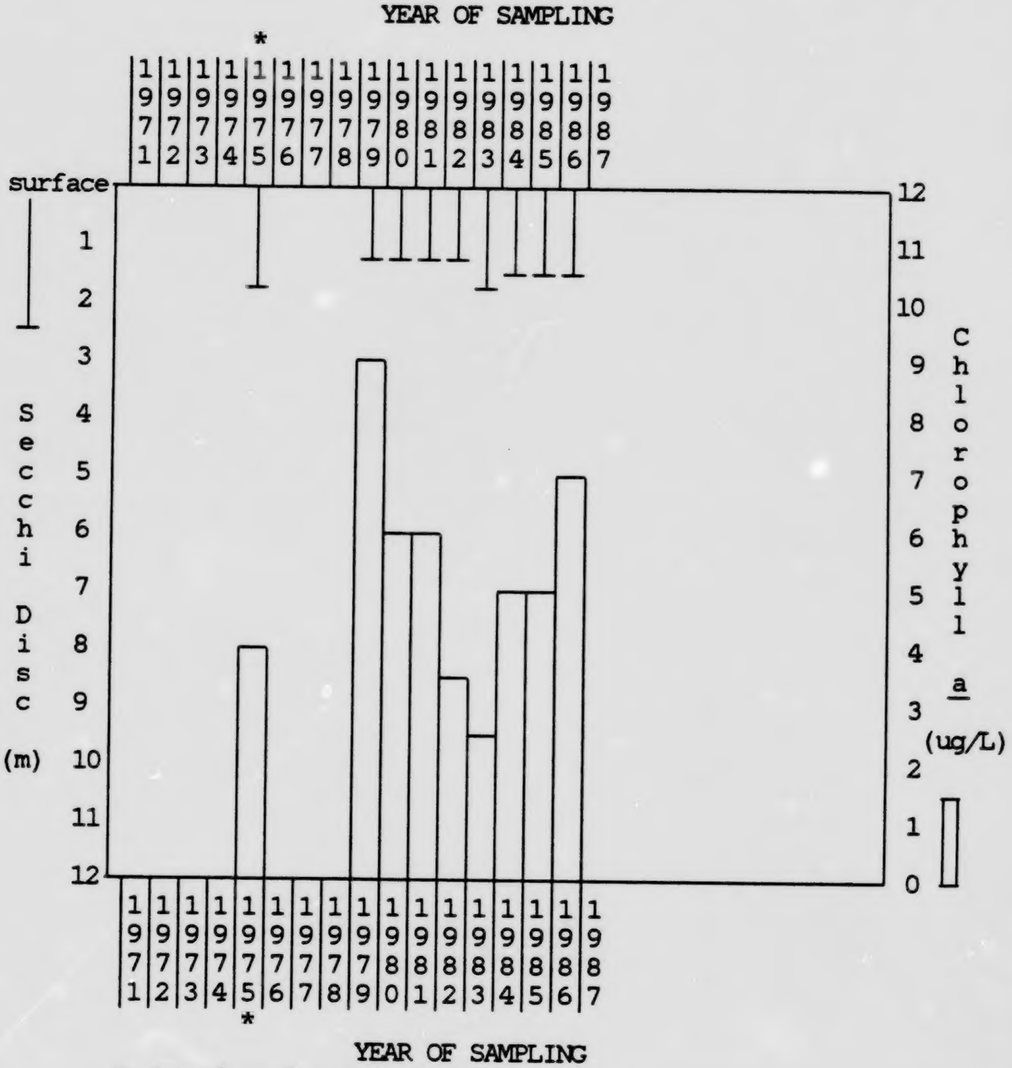


There are now 10 years of reliable seasonal average data available for the South station of Black Lake. These results indicate a consistently low degree of water transparency in the range of 1.5 to 2.0 m. The densities of suspended algae were highly variable ranging from 3 to 10 ug/L.

Water quality of Black Lake continues to reflect enriched water quality conditions.

We hope that sampling continues in 1987 in order to establish a good long-term record of water quality.

Figure 2 : Summary of results for Secchi disc (m) and chlorophyll a (ug/L) from Black Lake (North station) from 1979 to 1986. Seasonal mean data (more than 6 sampling dates) unless otherwise specified. A minimum of 4 sample results was required for graphing.



* based on 5 sample results

Black Lake North station now has 10 years of water quality data which indicate a consistently low degree of water transparency with Secchi disc readings ranging from 1 to 2 m. The densities of suspended algae were highly variable ranging from 2.5 to 9.0 ug/L.

Water quality at this station was similar to the water quality at the South station, typical of enriched lake conditions. We hope sampling continues in 1987 in order to maintain a continuous long-term record of water quality.

BOSHKUNG LAKE

STANHOPE TOWNSHIP

COUNTY OF HALIBURTON

Table 1: Secchi Disc (m) and chlorophyll a (ug/L) data collected from Boshkung Lake in 1986.

Station	Mid-Lake	
Date	S.D.	Chl.a
July 10	7.25	1.7
July 24	5.5	2.0
July 31	6.75	2.7

Insufficient sampling was done in 1986 to obtain meaningful results from the information collected. On the 3 occasions in July when sampling was done, transparency was high, with Secchi disc readings ranging from 5.5 to 7.25 m and averaging 6.5 m. The chlorophyll a concentrations were moderately low, ranging from 1.7 to 2.7 ug/L, indicating low densities of suspended algae. We recommend that sampling frequency be increased to 6 times per year for 1987.

FIGURE 1: The relationship between Secchi disc and chlorophyll a for Bass Lake in 1986 and a number of recreational lakes in Central Region. All data are seasonal averages.

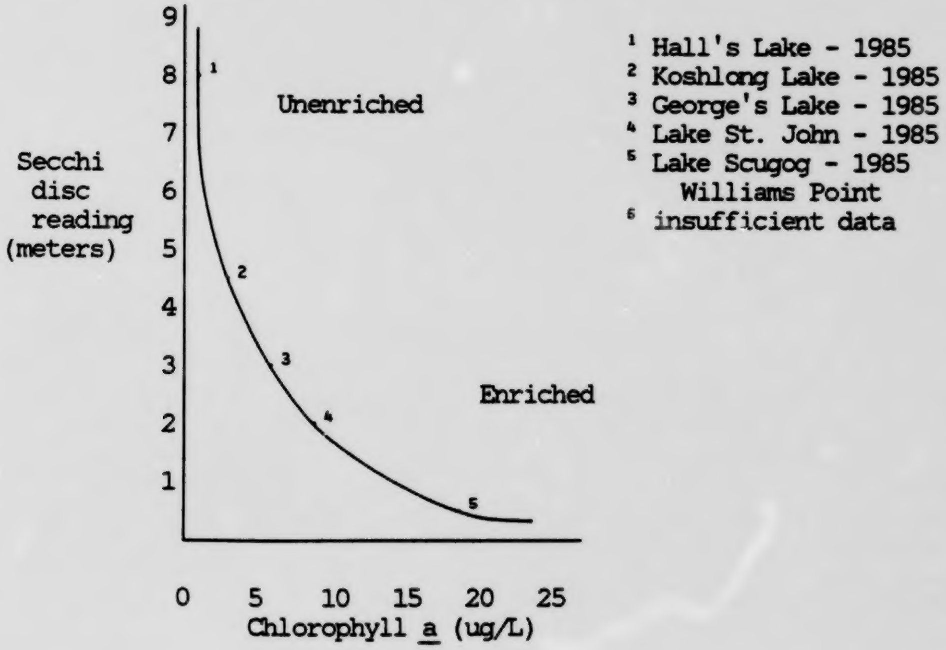
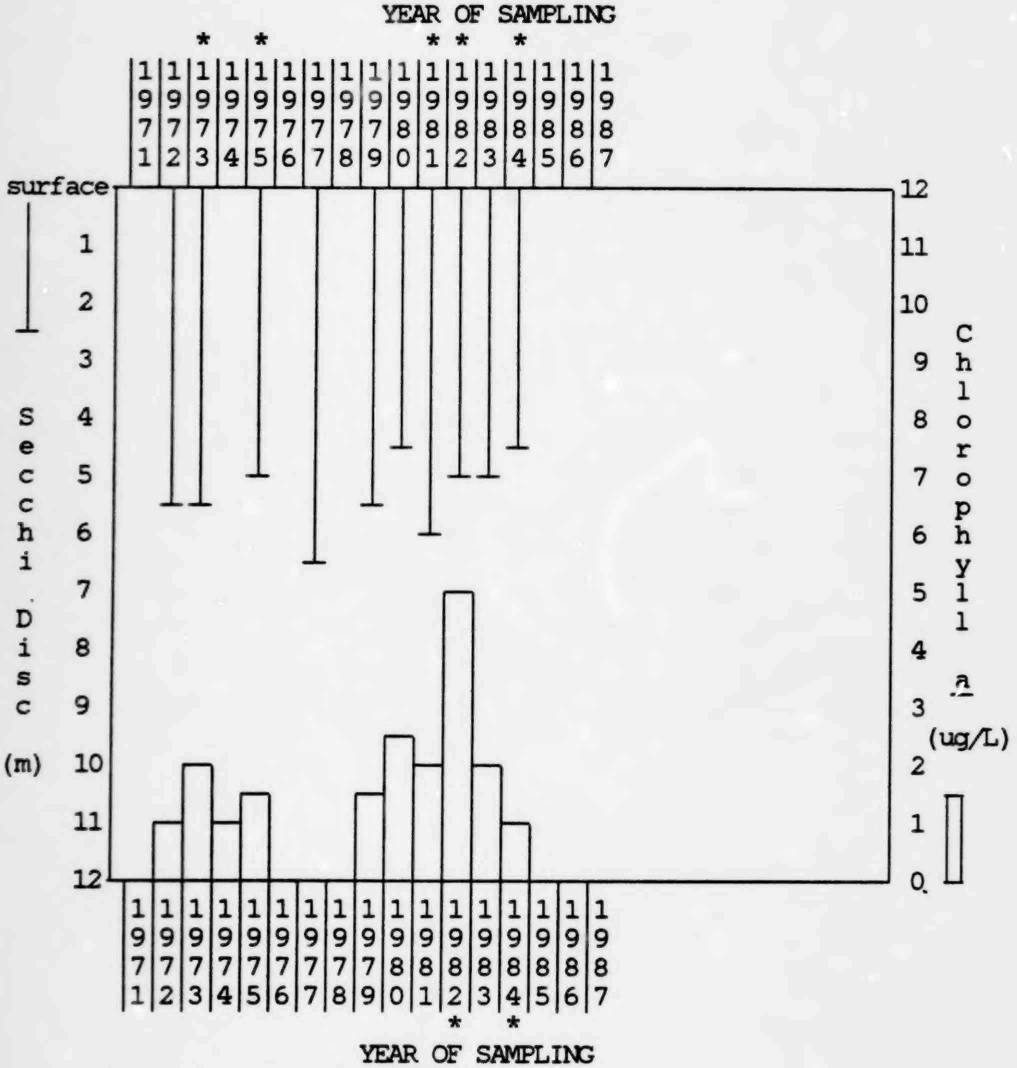


Figure 2 : Summary of results for Secchi disc (m) and chlorophyll a (ug/L) from Boshkung Lake in 1986. Seasonal mean data (more than 6 sampling dates) unless otherwise specified. A minimum of 4 results were required for graphing.



* based on 4 or 5 results

Insufficient sampling was done on Boshkung Lake in 1986 to graph the results.
Based on the previous 10 years of data, the degree of water transparency has been consistently high, ranging between 4.4 to 6.6.m. Chlorophyll a concentrations were also consistently low, ranging from 0.9 to 2.3 ug/L, except in 1982, when the concentration was 4.8 ug/L. Based on these past results, Boshkung Lake would appear to be borderline between moderately enriched and enriched.
If sampling continues in 1987, we recommend increasing the sampling frequency to at least 6 occasions if possible.

BRADY LAKE

HINDON TOWNSHIP

COUNTY OF HALIBURTON

Table 1: Secchi Disc (m) and chlorophyll a (ug/L) data collected from Brady Lake in 1986.

Station	Deepest Point		Station 2	
Date	S.D.	Chl.a	S.D.	Chl a
Aug 9	2.0	3.3	3.0	3.1
Aug 23	2.0	5.7	2.5	4.7

Insufficient sampling was done in 1986 to obtain meaningful results from the information collected.
Since we have no record of your involvement in the Selfhelp Program for 1986, please contact Dhan Sharma at 424-3000.

FIGURE 1: The relationship between Secchi disc and chlorophyll a for Brady Lake in 1986 and a number of recreational lakes in Central Region. All data are seasonal averages.

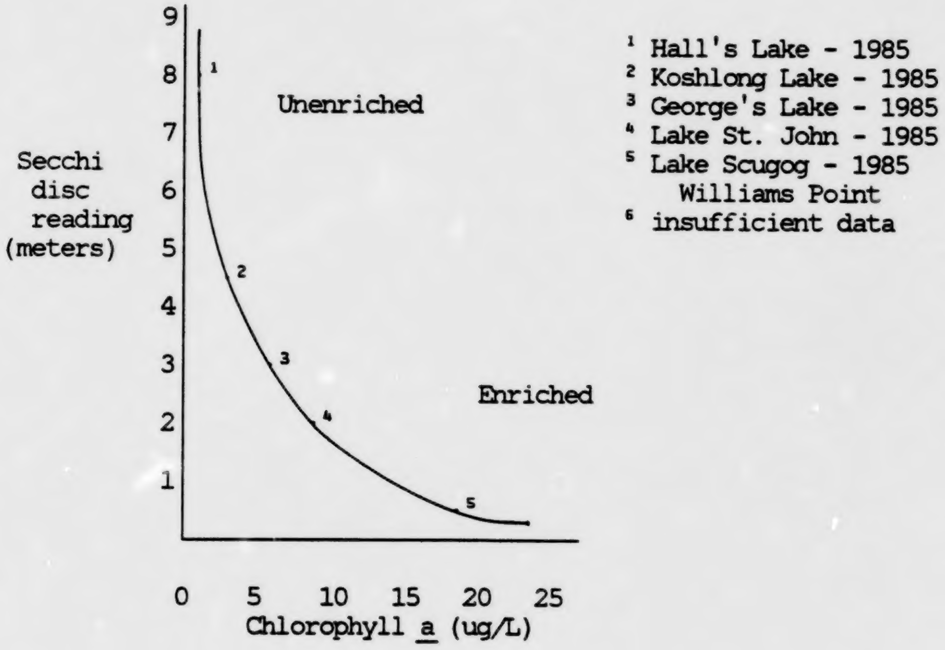
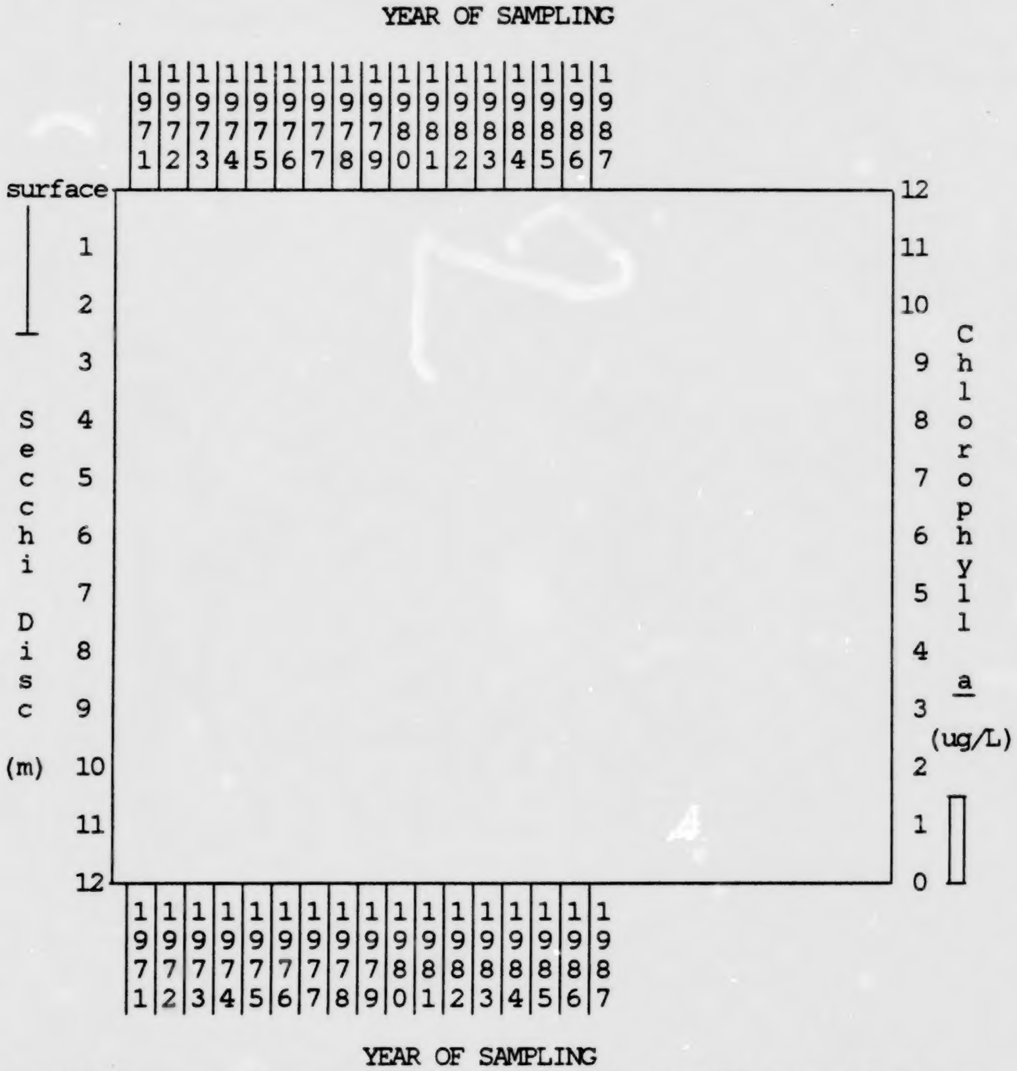


Figure 2 : Summary of results for Secchi disc (m) and chlorophyll a (ug/L) from Brady Lake in 1986.
Seasonal mean data (more than 6 sampling dates) only.
A minimum of 4 results was required for graphing.



Insufficient sampling was done on Brady Lake in 1986 to graph the results.

We hope that sampling continues in 1987, with increased sampling frequency, in order to establish a good long-term record of water quality.

BRUCE LAKE

MEDORA WARD
TOWNSHIP OF MUSKOKA LAKES

DISTRICT MUNICIPALITY OF MUSKOKA

Table 1: Secchi Disc (m) and chlorophyll a (ug/L) data collected from Bruce Lake in 1986.

Station	East	
Date	S.D.	Chl.a
May 25	2.75	4.2
June 8	2.25	4.4
June 22	3.25	4.1
July 6	3.4	5.9
Aug 17	3.1	2.5
Sept 1	2.9	3.7
Sept 18	2.95	4.9
	-----	-----
	2.9	4.2
	-----	-----

Another good sampling program was done on Bruce Lake in 1986 with sampling done on 7 occasions. The Secchi disc readings were moderately low ranging from 2.25 to 3.4 m and averaging 2.9 m, indicating a moderately low degree of water clarity. Chlorophyll a concentrations were high, ranging from 2.5 to 5.9 ug/L and averaging 4.2 ug/L. These levels indicated that high densities of suspended algae were present but no severe algae blooms were observed in 1986. The water quality of Bruce Lake in 1986 was typical of a lake borderline between moderately enriched and enriched.

FIGURE 1: The relationship between Secchi disc and chlorophyll a for Bruce Lake in 1986 and a number of recreational lakes in Central Region. All data are seasonal averages.

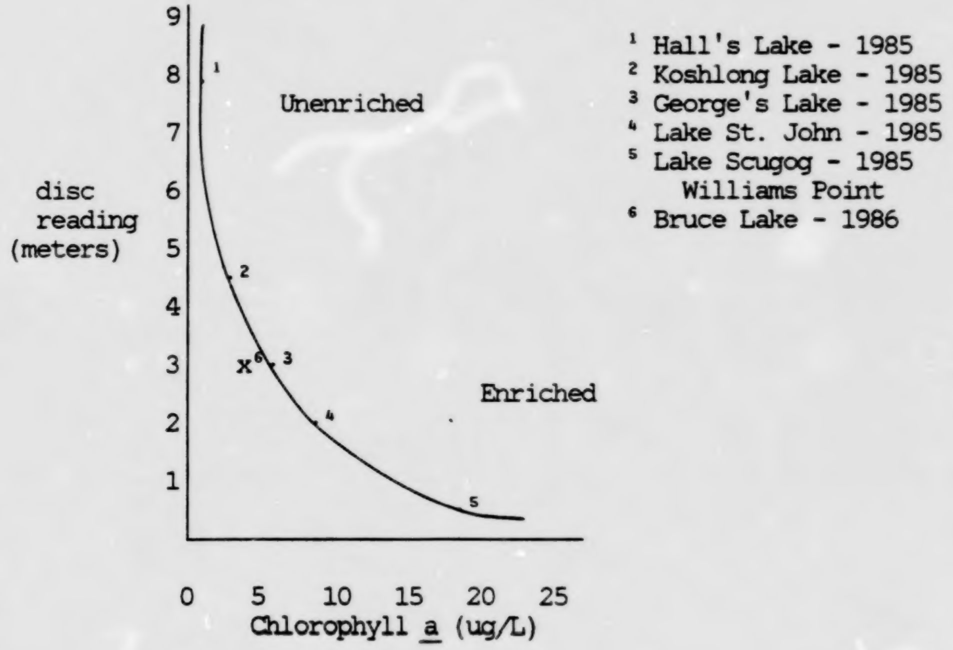
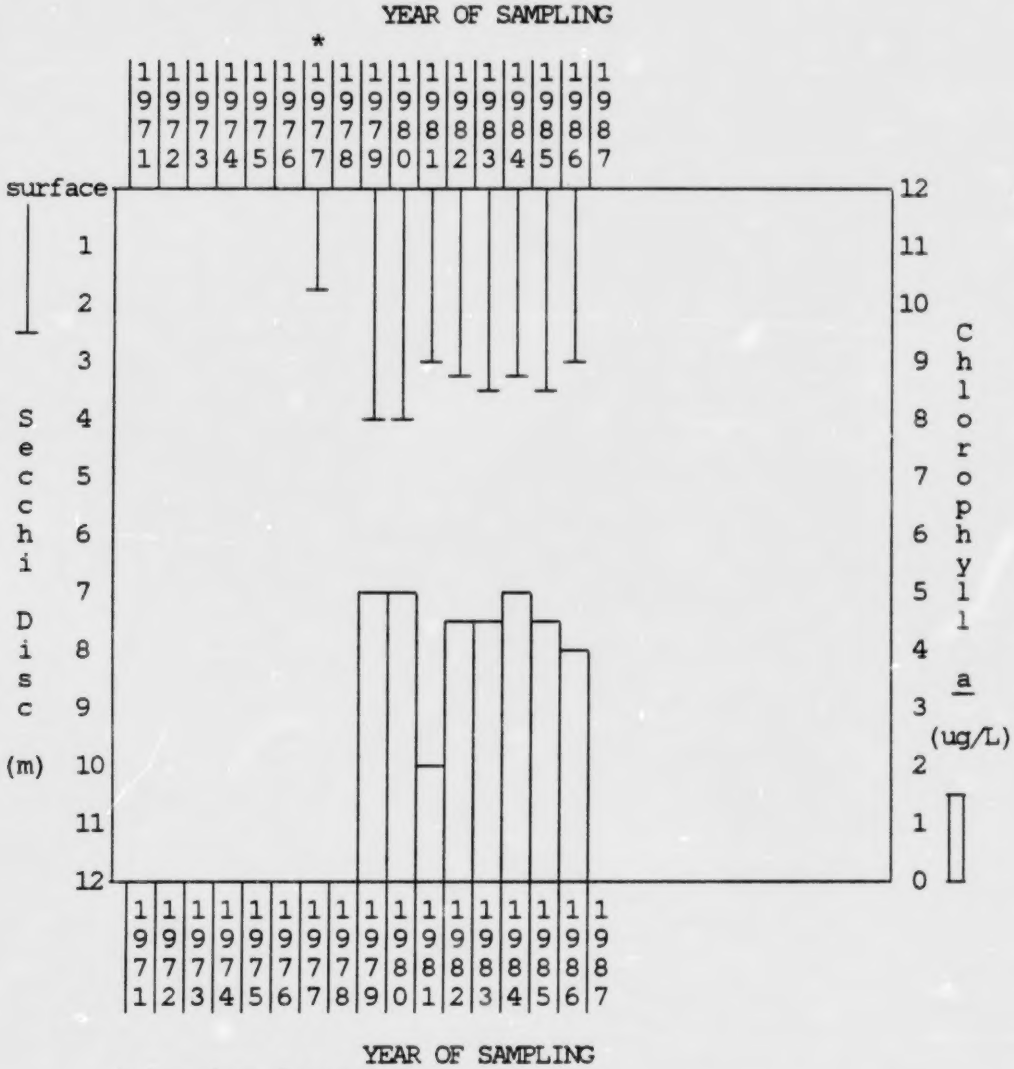


Figure 2 : Summary of results for Secchi disc (m) and chlorophyll a (ug/L) from Bruce Lake from 1979 to 1986. Seasonal mean data (more than 6 sampling dates) unless otherwise specified. A minimum of 4 results was required for graphing.



* based on 5 results

There are now 9 years of data available for Bruce Lake.

These results indicate that there has been no noticeable change in water quality since 1979. In 1977, an unusually low degree of water clarity was observed but Secchi disc readings have generally ranged from 3 to 4 m. Densities of suspended algae were usually greater than 4 ug/L except in 1981 when an unusually low chlorophyll a concentration was observed.

Bruce Lake continues to be borderline between moderately enriched and enriched.

We hope sampling continues on Bruce Lake in 1987 in order to monitor any long-term changes in water quality.

BUCK LAKE

STISTED WARD
TOWN OF HUNTSVILLE

DISTRICT MUNICIPALITY OF MUSKOKA

Table 1: Secchi Disc (m) and chlorophyll a (ug/L) data collected from Buck Lake in 1986

Station	South Centre		South East	
Date	S.D.	Chl.a	S.D.	Chl.a
May 25	1.4	2.0	1.5	1.9
June 22	1.2	1.4	1.4	1.9
July 6	1.4	2.0	1.3	2.4
Aug 4		2.1		1.5
Aug 10	1.6	4.3	1.4	4.6
Sept 1	1.7	7.9	1.6	6.6
	1.6	3.3	1.4	3.2

A good sampling program was done on Buck Lake in 1986 with 6 sampling occasions. The Secchi disc readings from South Centre ranged from 1.2 to 1.7 m and averaged 1.5 m. At the South East station, the readings ranged from 1.3 to 1.6 m and averaged 1.4 m. These values indicate low water transparency.
Chlorophyll a concentrations ranged from 1.4 to 7.9 ug/L in the South Centre and from 1.5 to 6.6 ug/L in the South East station. These values indicate moderate to high densities of suspended algae.
The water quality of Buck Lake in 1986 indicates a lake moderately enriched to enriched, with poor water transparency.

FIGURE 1: The relationship between Secchi disc and chlorophyll a for Buck Lake in 1986 and a number of recreational lakes in Central Region. All data are seasonal averages.

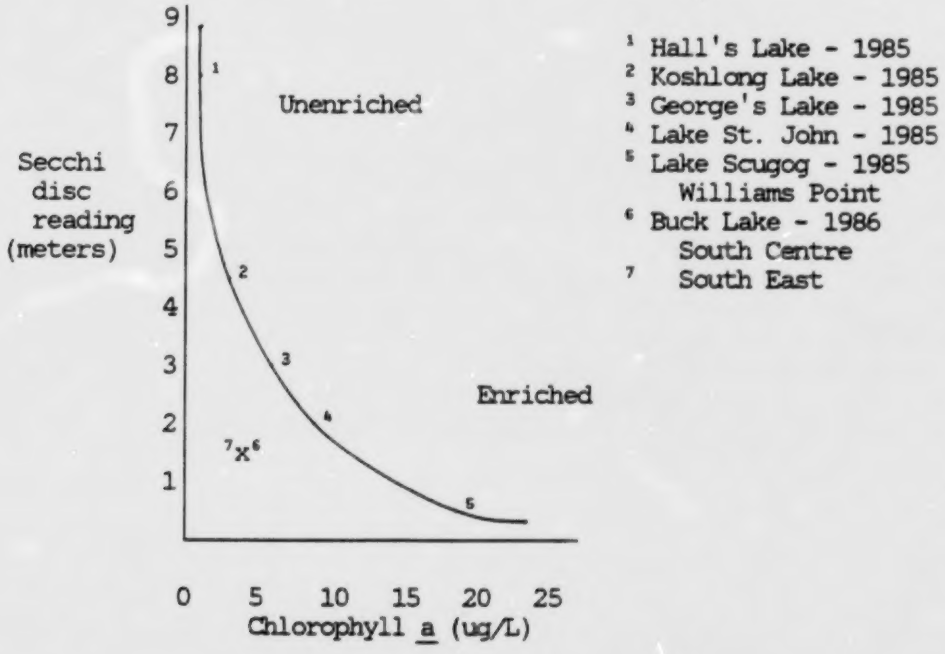
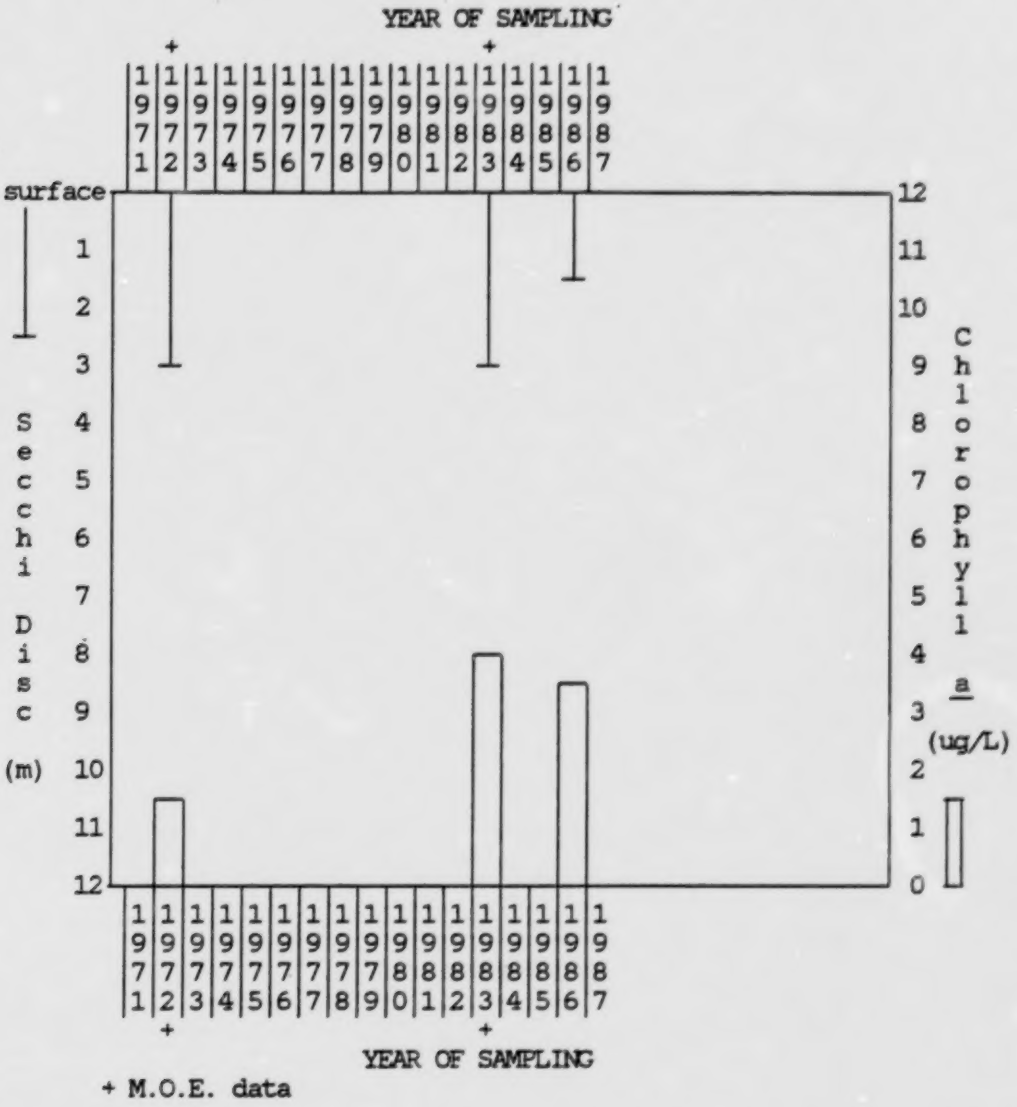


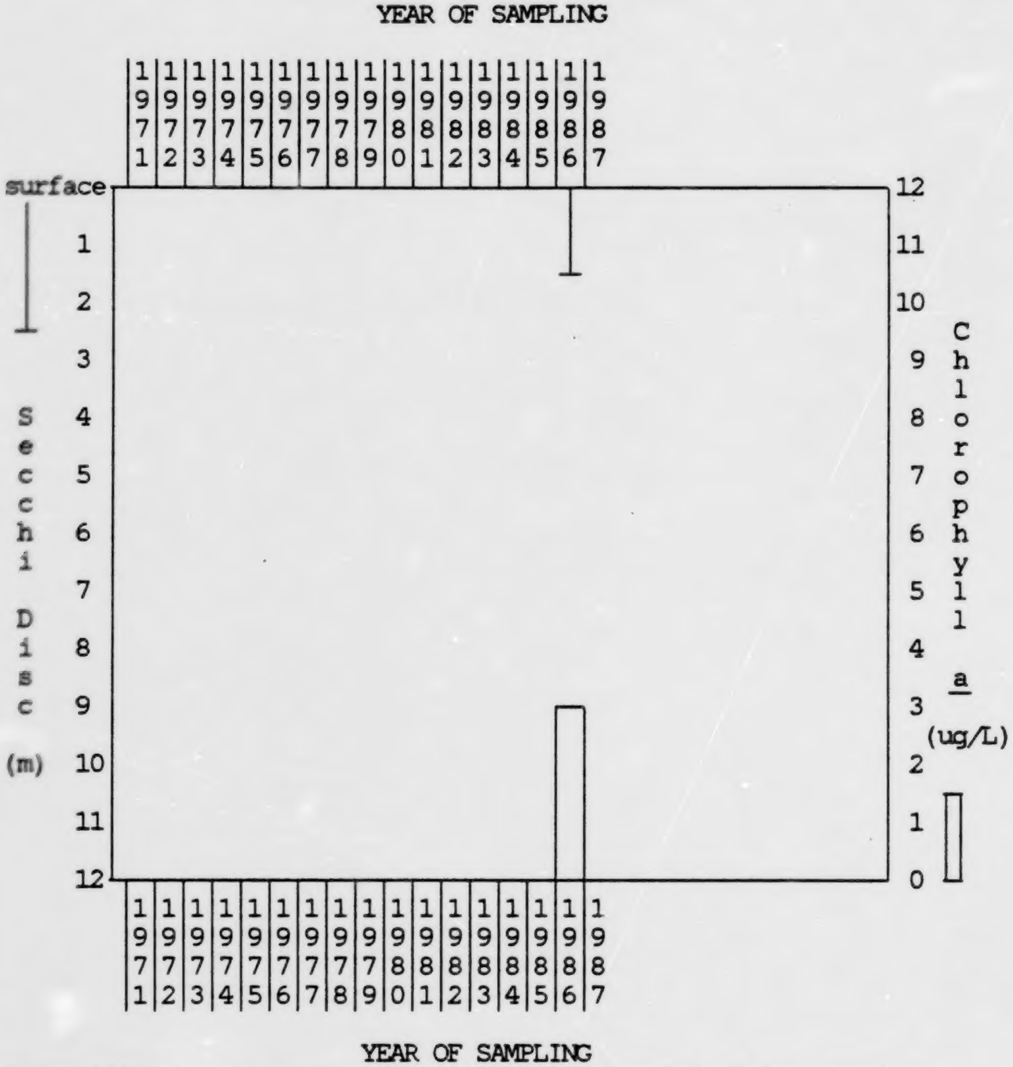
Figure 2 : Summary of results for Secchi disc (m) and chlorophyll a (ug/L) from Buck Lake (South Centre) in 1986. Seasonal mean data (more than 6 sampling dates) only. A minimum of 4 results was required for graphing.



Based on the three years of available data for Buck Lake, it would appear that the water quality at this location is declining. The degree of water clarity has decreased from 3.2 m in 1972 to 1.6 m in 1986. The chlorophyll a concentration has also increased from 1.5 ug/L in 1972 to 4.0 ug/L in 1983 and 3.3 ug/L in 1986, indicating increasing densities of suspended algae.

We hope that sampling continues for several years in order to monitor this trend, and to establish a long-term record of water quality.

Figure 2 : Summary of results for Secchi disc (m) and chlorophyll a (ug/L) from Buck Lake (South East) in 1986. Seasonal mean data (more than 6 sampling dates) only. A minimum of 4 results was required for graphing.



Since 1986 was the first year of sampling for Buck Lake, South East station, we are unable to comment on the long term water quality trends. We hope that sampling on this lake continues for several years in order to establish a long term record of water quality.

CAMERON LAKE

FENELON TOWNSHIP

COUNTY OF VICTORIA

Table 1: Secchi Disc (m) and chlorophyll a (ug/L) data collected from Cameron Lake in 1986

Station	Fells Bay	
Date	S.D.	Chl.a
July 6	2.24	SB
July 20	2.4	2.0
Aug 17	3.5	1.9
Sept 15	2.77	4.1
Sept 29	2.17	2.0
	-----	-----
	2.6	2.5
	-----	-----

SB - Sample broken in transit

Sampling on Cameron Lake was done on 5 occasions. Secchi disc readings ranged from 2.17 to 3.5 and averaged 2.6, indicating a moderately low degree of water clarity. Chlorophyll a concentrations ranged from 1.9 to 4.1 ug/L and averaged 2.5 ug/L, indicating moderate densities of suspended algae. Based on these results, Cameron Lake would be considered moderately enriched. For 1987, we recommend that sampling frequency be increased, if possible, to 6 times.

FIGURE 1: The relationship between Secchi disc and chlorophyll a for Cameron Lake in 1986 and a number of recreational lakes in Central Region. All data are seasonal averages.

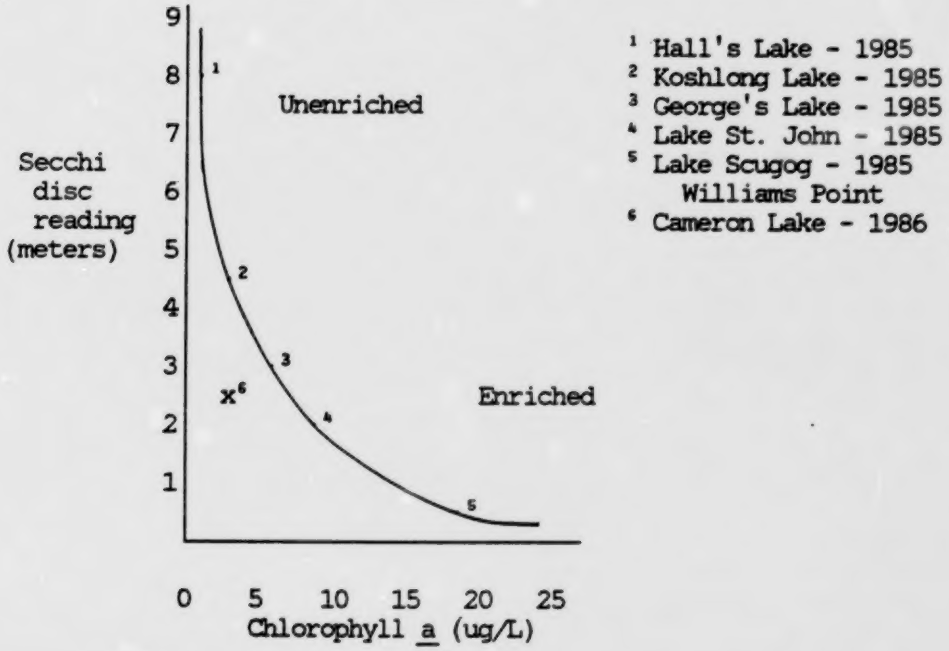
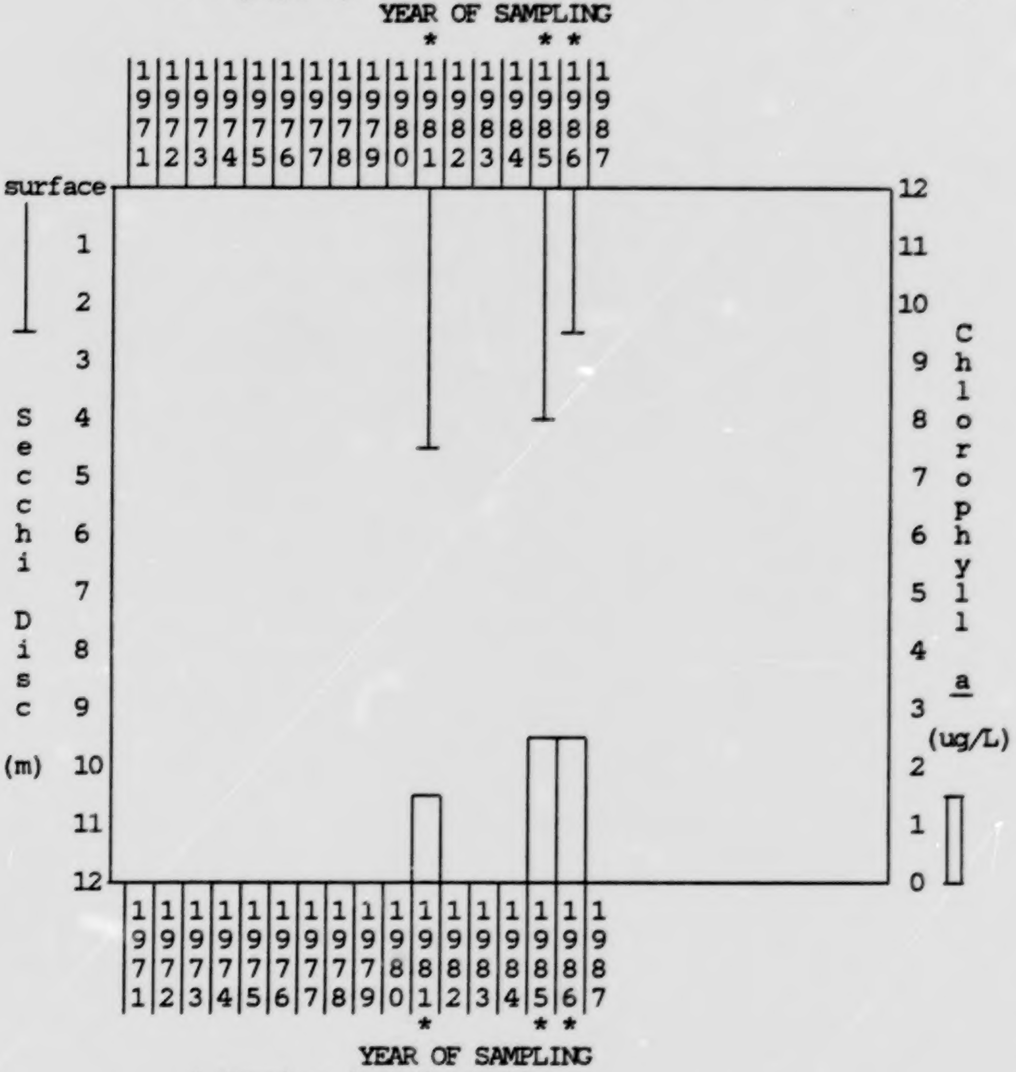


Figure 2 : Summary of results for Secchi disc (m) and chlorophyll a (ug/L) from Cameron Lake (Fell's Bay) from 1981 to 1986. Seasonal mean data (more than 6 sampling dates) unless otherwise specified. A minimum of 4 results was required for graphing.



* Based on 4 or 5 results

We now have 3 years of data for Cameron Lake in Fell's Bay. There is, as yet, insufficient data to comment on any long-term trends in water quality for this location. We hope that sampling continues in 1987 so that a continuous water quality record can be established. The degree of water clarity has been moderately high and densities of suspended algae have been moderately low in Fell's Bay so far.

CANNING LAKE

MINDEN & SNOWDON TOWNSHIPS

COUNTY OF HALIBURTON

Table 1: Secchi Disc (m) and chlorophyll a (ug/L) data collected from Canning Lake in 1986.

Station	Centre	
Date	S.D.	Chl.a
May 25	4.0	2.5
June 9	4.3	2.0
July 20	4.5	2.5
Aug. 4	4.0	3.2
Aug 10	4.0	3.7
Aug 17	5.0	4.8
Sept 2	5.6	3.5
	4.5	3.2

A good sampling program was done on Canning Lake in 1986, with 7 sampling occasions. Secchi disc readings ranged from 4.0 to 5.6 m and averaged 4.5 m, indicating a moderately high degree of water transparency. Chlorophyll a concentrations ranged from 2.0 to 4.8 ug/L and averaged 3.2 ug/L indicating that moderately low densities of suspended algae were present. These results indicate that water quality in Canning Lake is typical of moderately enriched conditions.

FIGURE 1: The relationship between Secchi disc and chlorophyll a for Canning Lake in 1986 and a number of recreational lakes in Central Region. All data are seasonal averages.

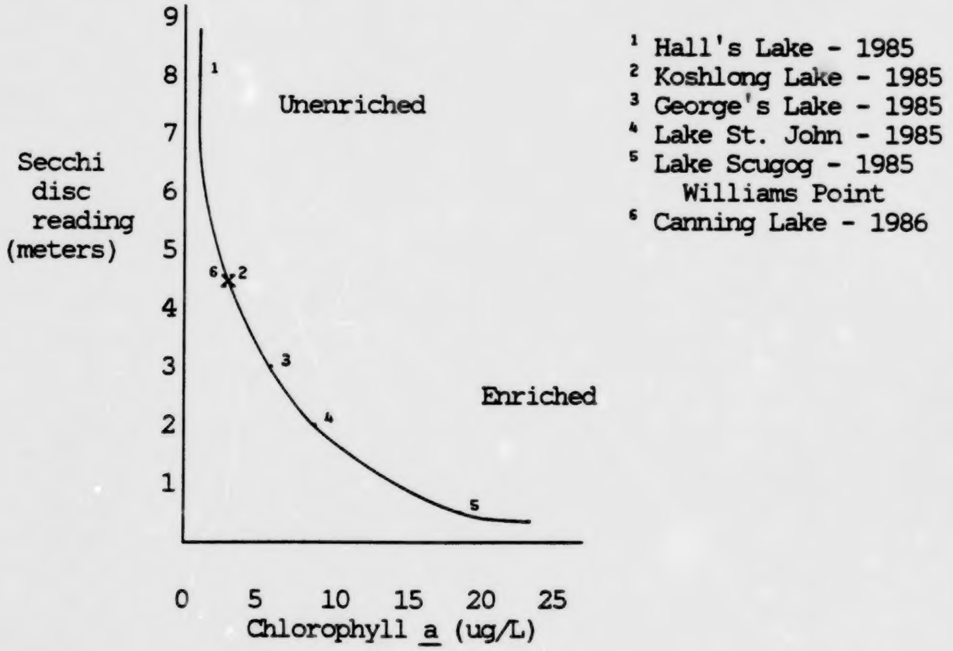
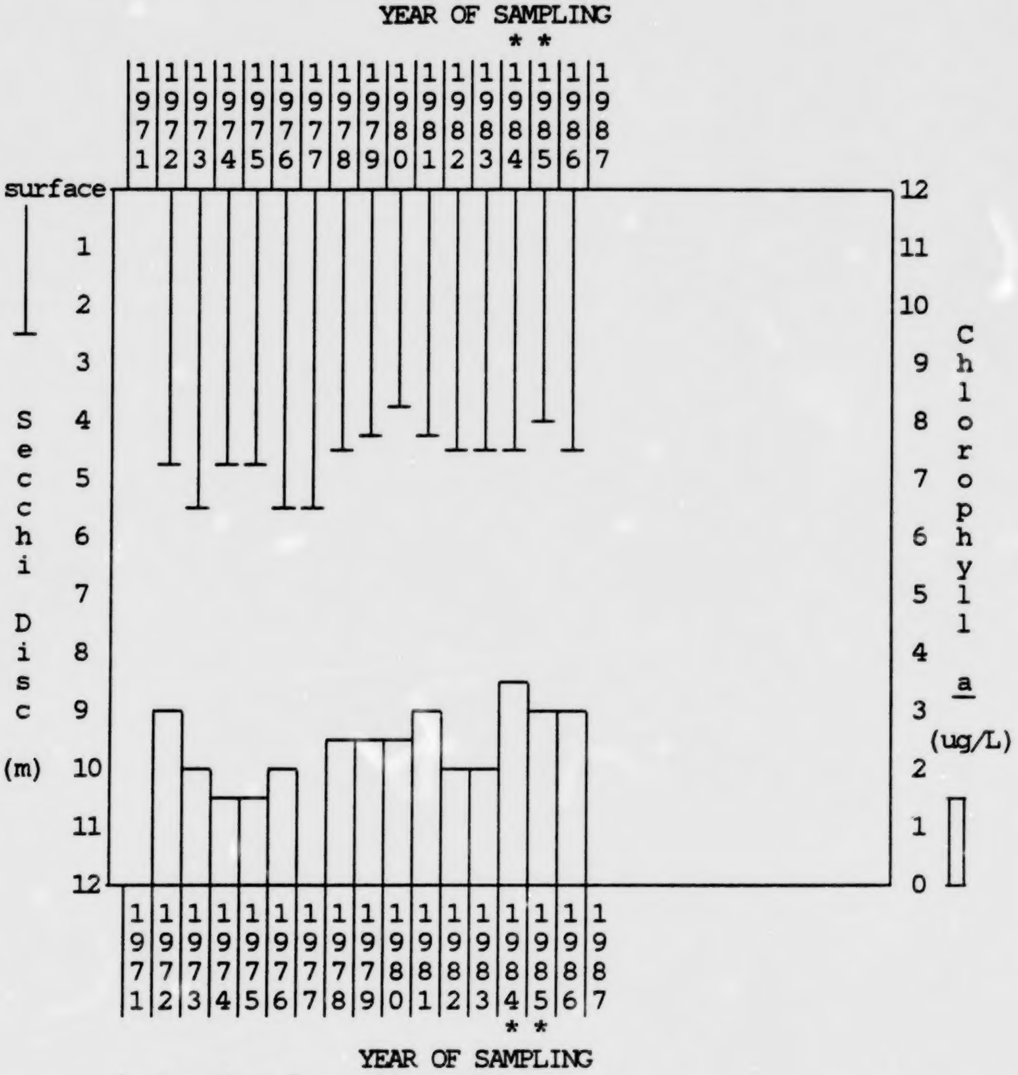


Figure 2 : Summary of results for Secchi disc (m) and chlorophyll a (ug/L) from Canning Lake from 1972 to 1986. Seasonal mean data (more than 6 sampling dates) unless otherwise specified. A minimum of 4 results was required for graphing.



* based on 5 sample results

An excellent long term record of water quality data has been established for Canning Lake with 13 years of reliable seasonal averages. There has been no noticeable change in water quality in Canning Lake since 1972.

The results indicate that Secchi disc readings have generally fluctuated around 4.5 m indicating a moderately high degree of water clarity. Densities of suspended algae have ranged from 1.5 to 3.5 ug/L indicating that moderately low densities of suspended algae were present.

The water quality of Canning Lake continues to be very good, typical of moderately enriched conditions.

CATCHACOMA LAKE

CAVENDISH TOWNSHIP

COUNTY OF PETERBOROUGH

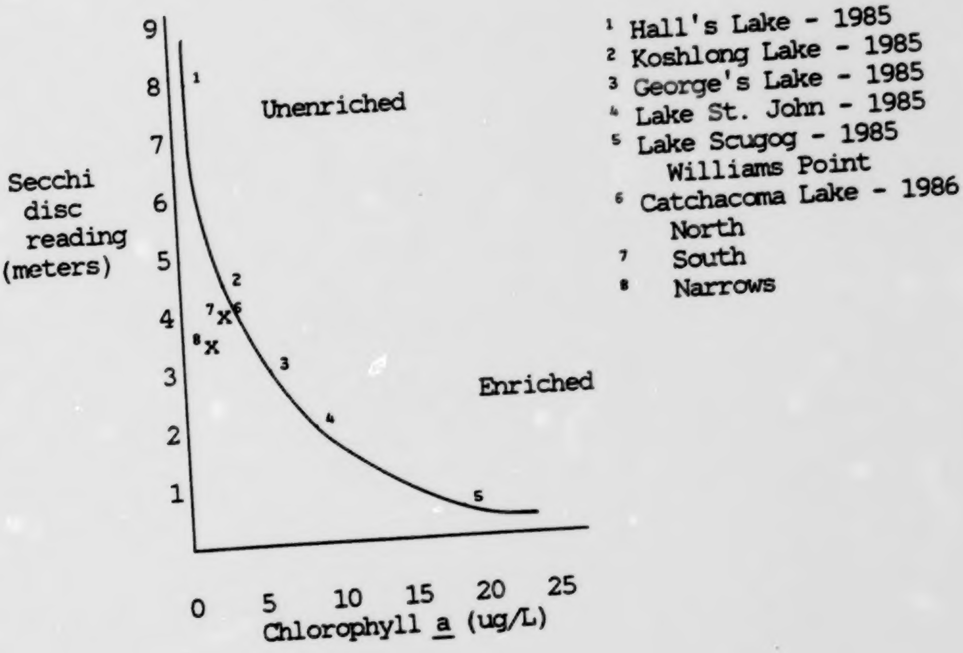
Table 1: Secchi Disc (m) and chlorophyll a (ug/L) data collected from Catchacoma Lake in 1986

Station	North		South		Narrows	
Date	S.D.	Chl.a	S.D.	Chl.a	S.D.	Chl.a
June 14	4.2	L 1.0	4.2	1.2	3.8	1.2
June 21	4.4	1.5	4.4	1.3	3.6	1.1
June 30	3.7	2.0	3.6	2.3	3.8	1.8
July 6	3.7	1.8	3.6	1.8	3.8	1.4
July 22	3.4	CR	3.6	CR		
July 29	3.3	2.1	3.2	1.9	3.2	1.3
Aug 5	3.9	3.2	4.0	3.1	3.3	1.8
Aug 31	4.7	4.6	4.4	3.9	3.8	4.7
	3.9	2.3	3.9	2.2	3.6	1.5

CR - No data: Could not perform confirming analysis.
L - Less than

For text see attached page.

FIGURE 1: The relationship between Secchi disc and chlorophyll a for Catchacoma Lake in 1986 and a number of recreational lakes in Central Region. All data are seasonal averages.



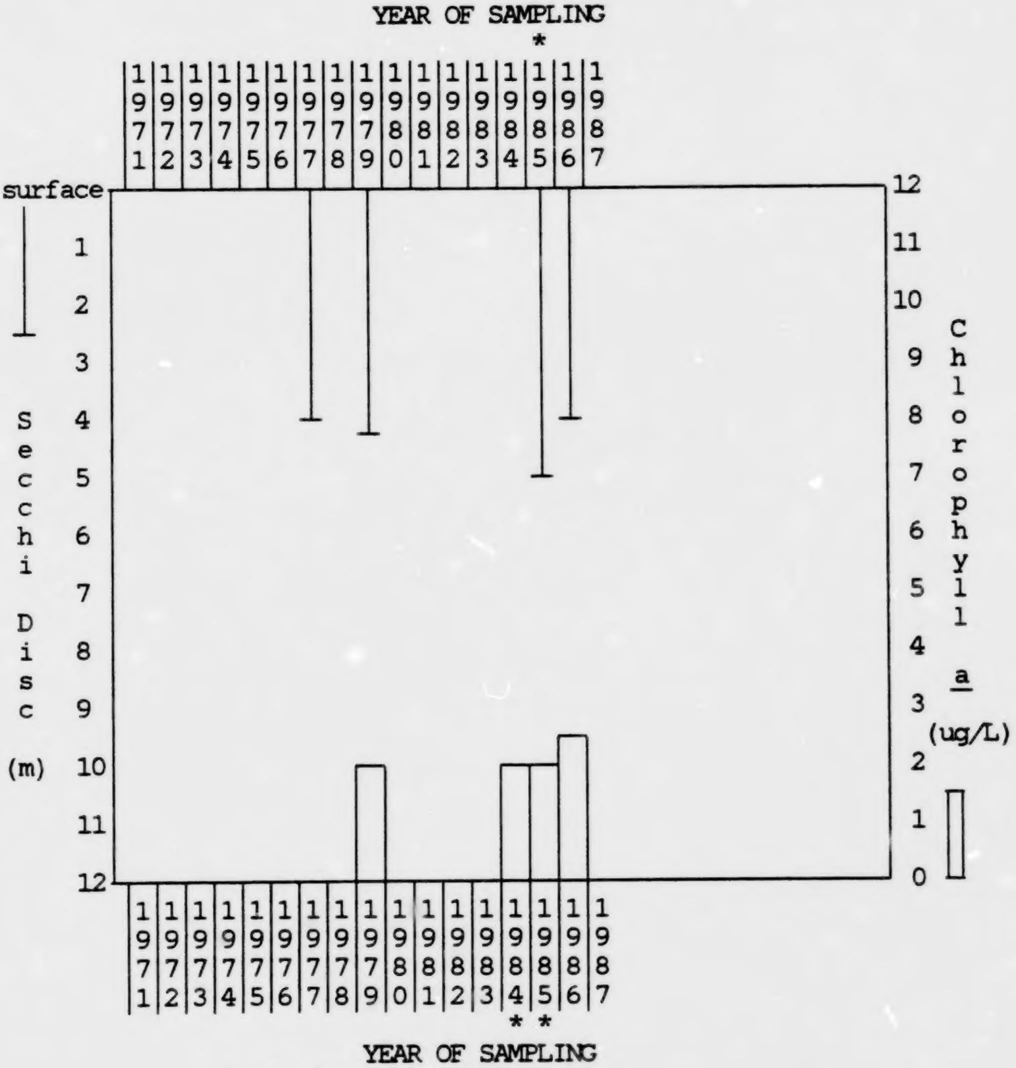
CATCHACOMA LAKE (page 2)

CAVENDISH TOWNSHIP

PETERBOROUGH COUNTY

A good sampling program was conducted on Catchacoma Lake in 1985, with 8 sampling occasions.
Secchi disc readings were similar at all three stations, averaging 3.9 m at the North station, 3.9 m at the South station, and 3.6 m at the Narrows, indicating a moderate degree of water transparency.
Chlorophyll a concentrations were moderately low at all three stations, averaging 2.3 ug/L at the North station, 2.2 ug/L at the South station, and 1.5 ug/L at the Narrows.
Based on these results, Catchacoma Lake would be considered to be moderately enriched.

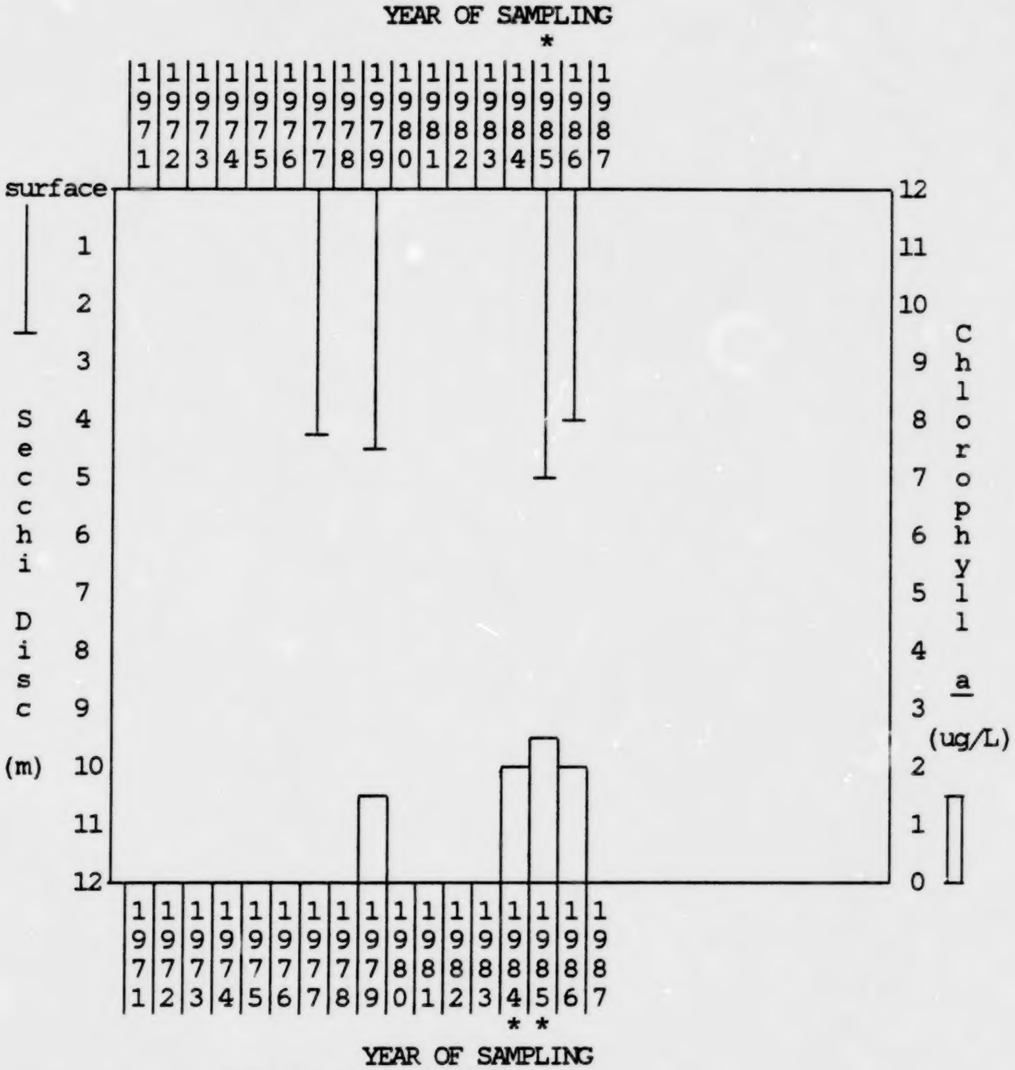
Figure 2 : Summary of results for Secchi disc (m) and chlorophyll a (ug/L) from Catchacoma Lake (North station) from 1977 to 1986. Seasonal mean data (more than 6 sampling dates) unless otherwise specified. A minimum of 4 results was required for graphing.



* Based on 4 samples.

We now have 4 years of data for Catchacoma Lake North station. The degree of water clarity has been moderately high and the densities of suspended algae have been moderately low for the period of record. quality at this station. We hope that sampling continues in 1987, in order to establish a reliable long-term record of water quality at this station.

Figure 2 : Summary of results for Secchi disc (m) and chlorophyll a (ug/L) from Catchacoma Lake (South station) from 1977 to 1986. Seasonal mean data (more than 6 sampling dates) unless otherwise specified. A minimum of 4 results were required for graphing.



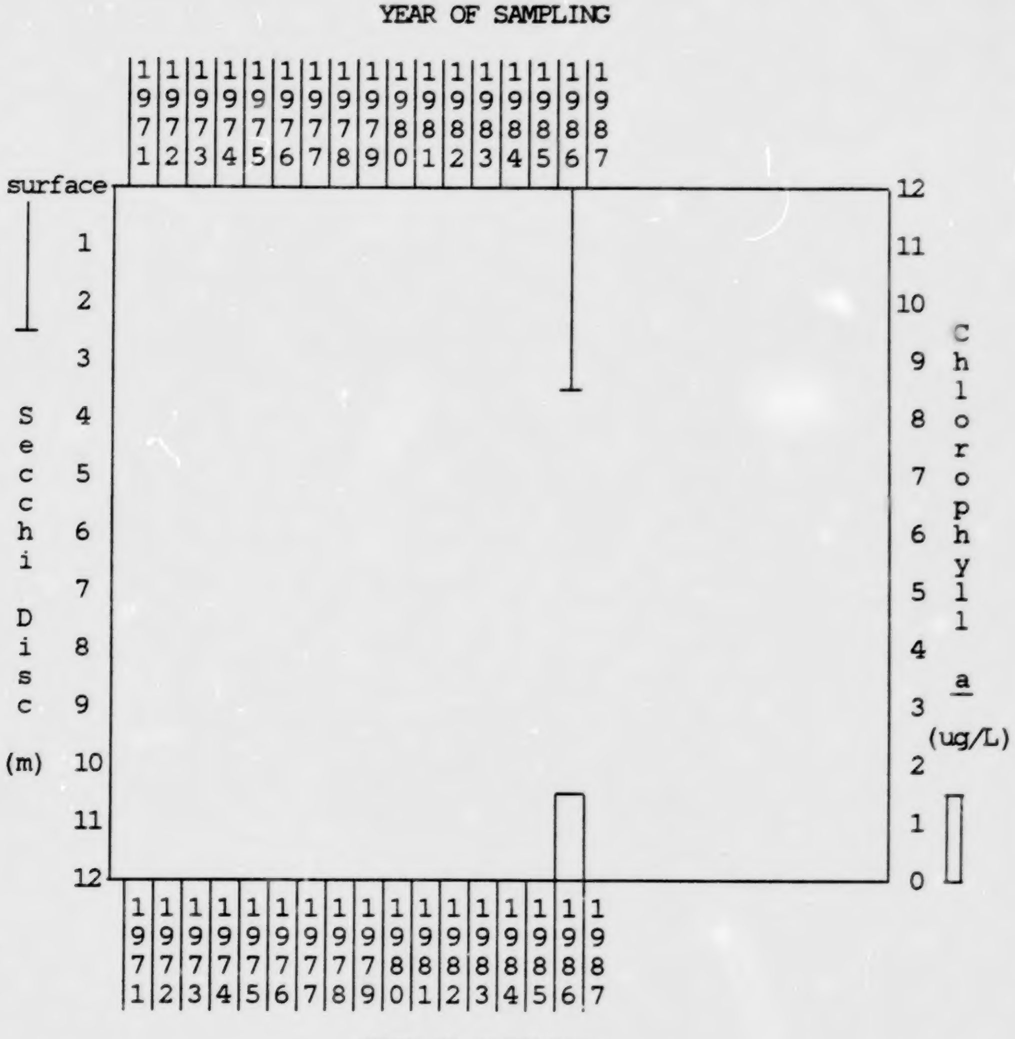
* Based on 4 samples

We now have 4 years of data available for Catchacoma Lake South station.

The degree of water clarity has been moderately high for the period of record and the densities of suspended algae have been low to moderate.

We hope sampling continues at this location in order to establish a good long-term record of water quality.

Figure 2 : Summary of results for Secchi disc (m) and chlorophyll a (ug/L) from Catchacoma Lake (Narrows station) in 1986. Seasonal mean data (more than 6 sampling dates) unless otherwise specified. A minimum of 4 results were required for graphing.



Since this location has only been sampled for 1 year, we are unable to make any comments regarding long-term water quality changes at this location. We hope you continue to sample in 1987 in order to establish a good record of water quality for Catchacoma Lake at this location.

CHANDOS LAKE

CHANDOS TOWNSHIP

COUNTY OF PETERBOROUGH

Table 1: Secchi Disc (m) and chlorophyll a (ug/L) data collected from Chandos Lake in 1986

Station	Channel		South Bay	
Date	S.D.	Chl.a	S.D.	Chl a
June 18	3.3	1.0	3.3	L 1.0
June 30	4.0	1.9	4.0	1.6
July 9	4.5	1.3	4.3	1.3
July 15	5.0	2.3	5.2	0.4
July 28	4.9	2.1	4.8	2.3
Aug 31	5.0	1.8	5.5	1.8
Sept 9	4.8	2.5	4.5	2.3
	4.5	1.8	4.5	1.5

L - Less than

A good sampling program was conducted on Chandos Lake in 1986, with sampling done on 7 occasions. Secchi disc readings were similar at both sampling stations, and averaged 4.5 m, indicating a moderately high degree of water clarity. Secchi disc readings averaged 1.8 ug/L at the Channel and 1.5 ug/L at the South Bay, indicating low densities of suspended alge. Based on the 1986 results, Chandos Lake would be considered borderline between moderately enriched and unenriched.

FIGURE 1: The relationship between Secchi disc and chlorophyll a for Chandos Lake in 1986 and a number of recreational lakes in Central Region. All data are seasonal averages.

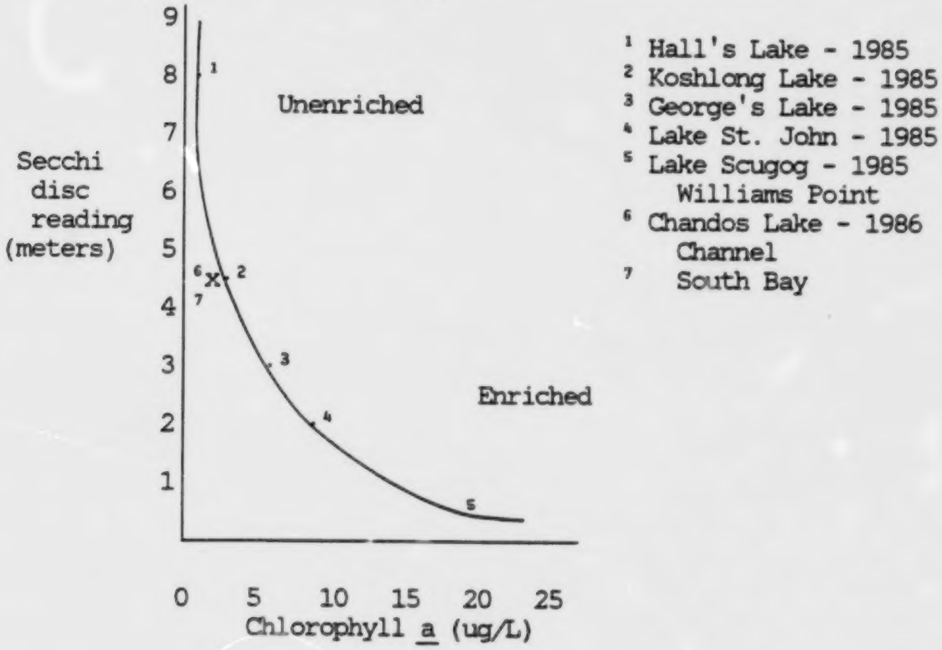
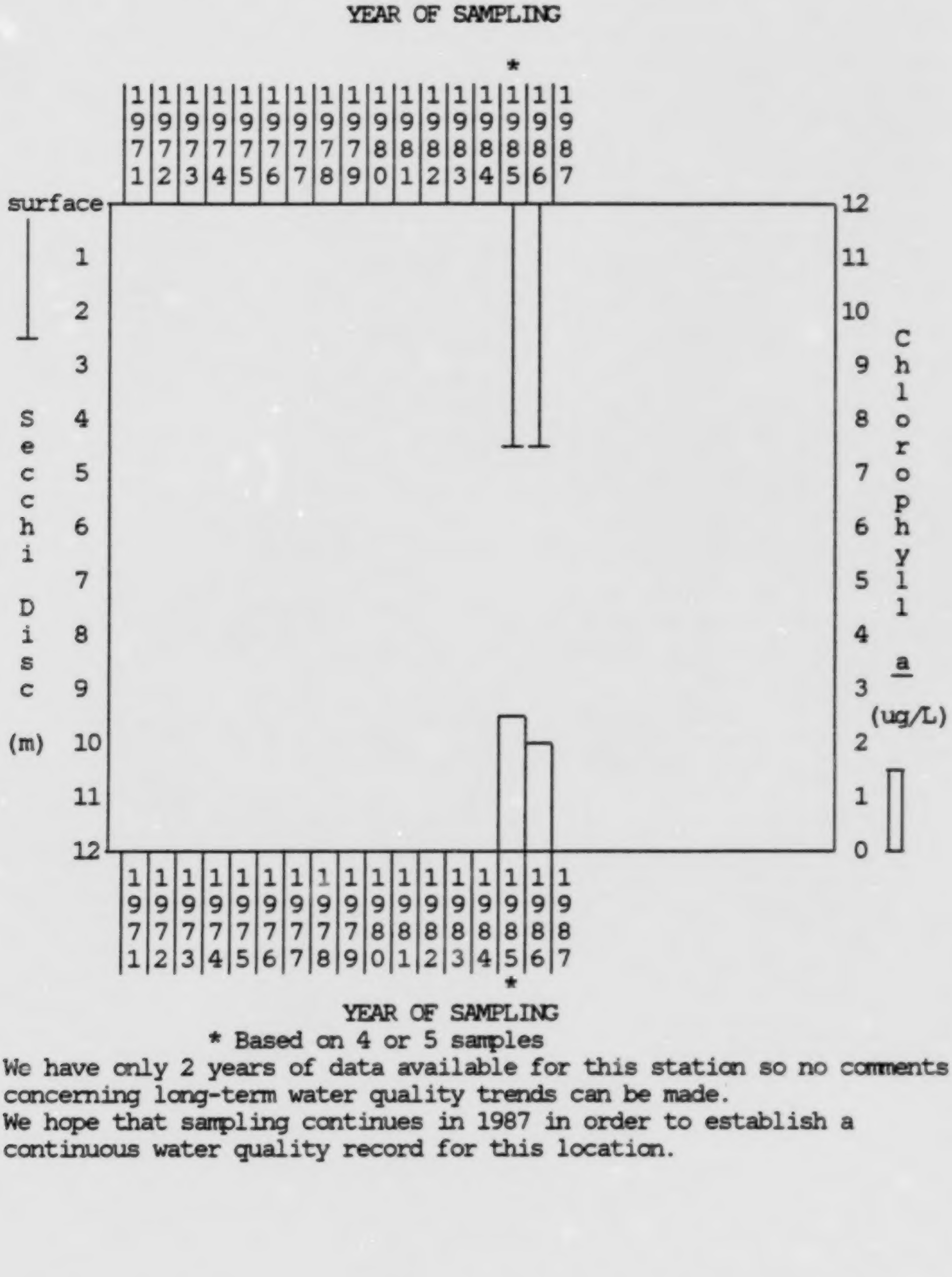


Figure 2 : Summary of results for Secchi disc (m) and chlorophyll a (ug/L) from Chandos Lake (Channel) in 1986. Seasonal mean data (more than 6 sampling dates) unless otherwise specified. A minimum of 4 results were required for graphing.

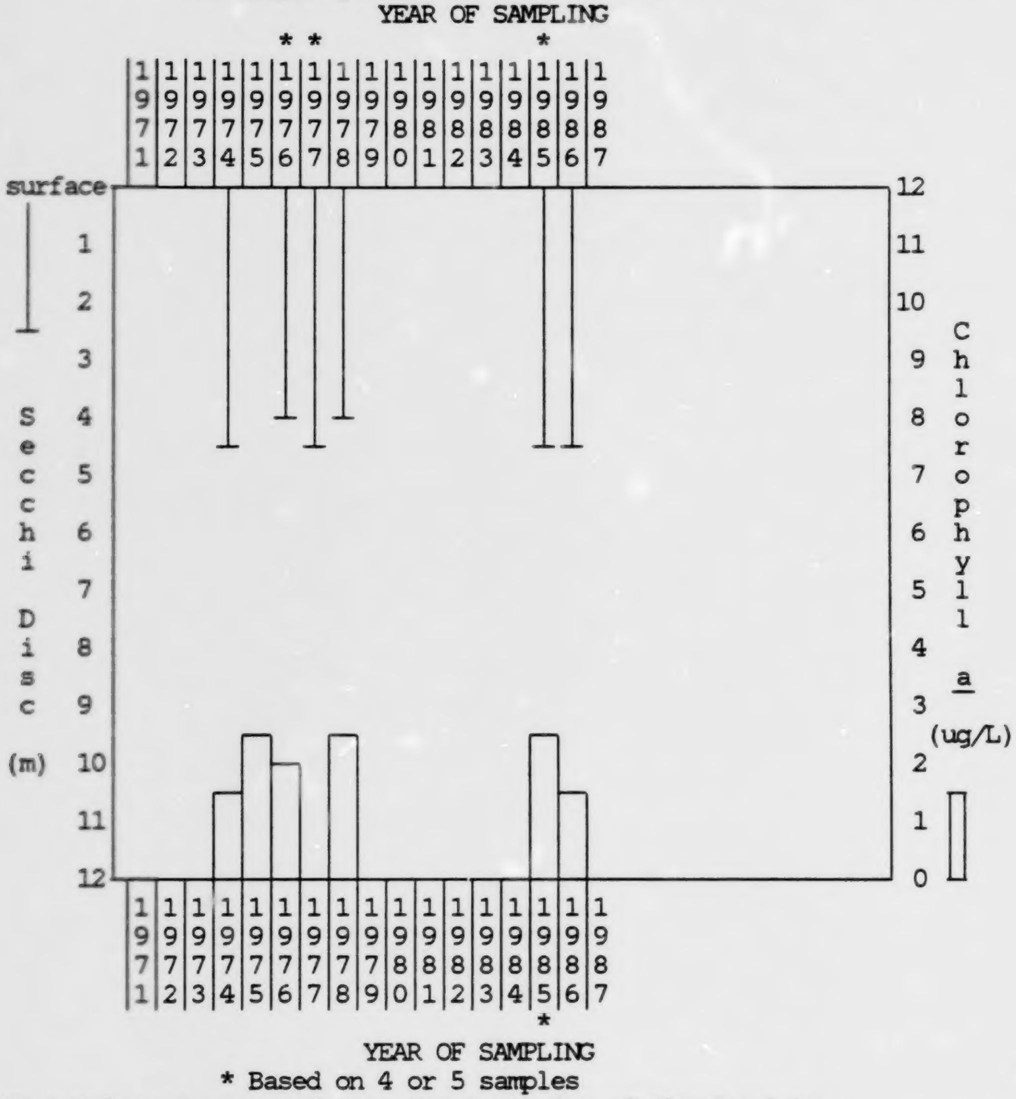


* Based on 4 or 5 samples

We have only 2 years of data available for this station so no comments concerning long-term water quality trends can be made.

We hope that sampling continues in 1987 in order to establish a continuous water quality record for this location.

Figure 2 : Summary of results for Secchi disc (m) and chlorophyll a (ug/L) from Chandos Lake (South Bay) from 1972 to 1986. Seasonal mean data (more than 6 sampling dates) unless otherwise specified. A minimum of 4 results were required for graphing.



* Based on 4 or 5 samples

We now have 6 years of data for South Bay of Chandos Lake.

The degree of water clarity has been moderately high for the period of record and the densities of suspended algae have been moderately low.

There has been no overall change in water quality at this location since 1974.

We hope sampling continues in 1987 in order to maintain a continuous long-term record of water quality.

CLEAR LAKE

LUTTERWORTH TOWNSHIP

COUNTY OF HALIBURTON

Table 1: Secchi Disc (m) and chlorophyll a (ug/L) data from Clear Lake in 1986

Station	North End		Centre	
Date	S.D.	Chl.a	S.D.	Chl.a
July 6	8.0	EF	7.5	EF
July 12	6.0	L 0.6	6.5	L 0.8
July 20	6.5	0.8	8.5	1.0
Aug. 4	6.5	1.6	7.5	1.8
Aug 16	4.0	1.6	4.5	1.8
Sept 1	4.5	1.2	5.5	1.2
	5.9	1.2	6.7	1.3

EF - Laboratory equipment failure.
L - Less than

A good sampling program was done on Clear Lake in 1986, with sampling on 6 occasions. Secchi disc readings averaged 5.9 m at the North End station, and 6.7 m at the Centre station, indicating high water transparency. Chlorophyll a concentrations were similar at both stations, averaging 1.2 ug/L at the North End and 1.3 ug/L at the Centre, indicating low densities of suspended algae. Based on 1986, Clear Lake would be considered unenriched with good water quality.

FIGURE 1: The relationship between Secchi disc and chlorophyll a for Clear Lake in 1986 and a number of recreational lakes in Central Region. All data are seasonal averages.

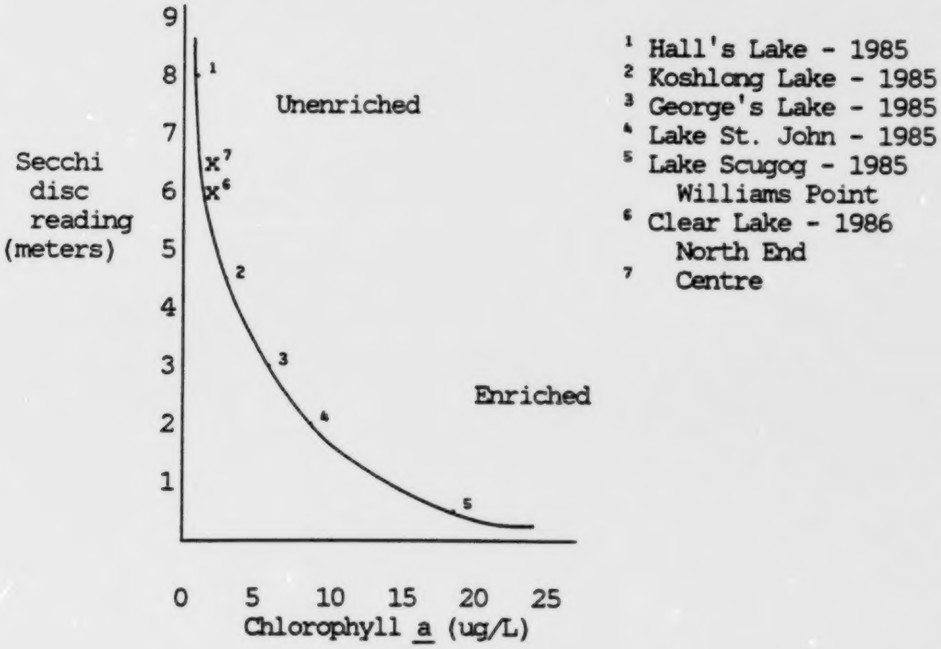
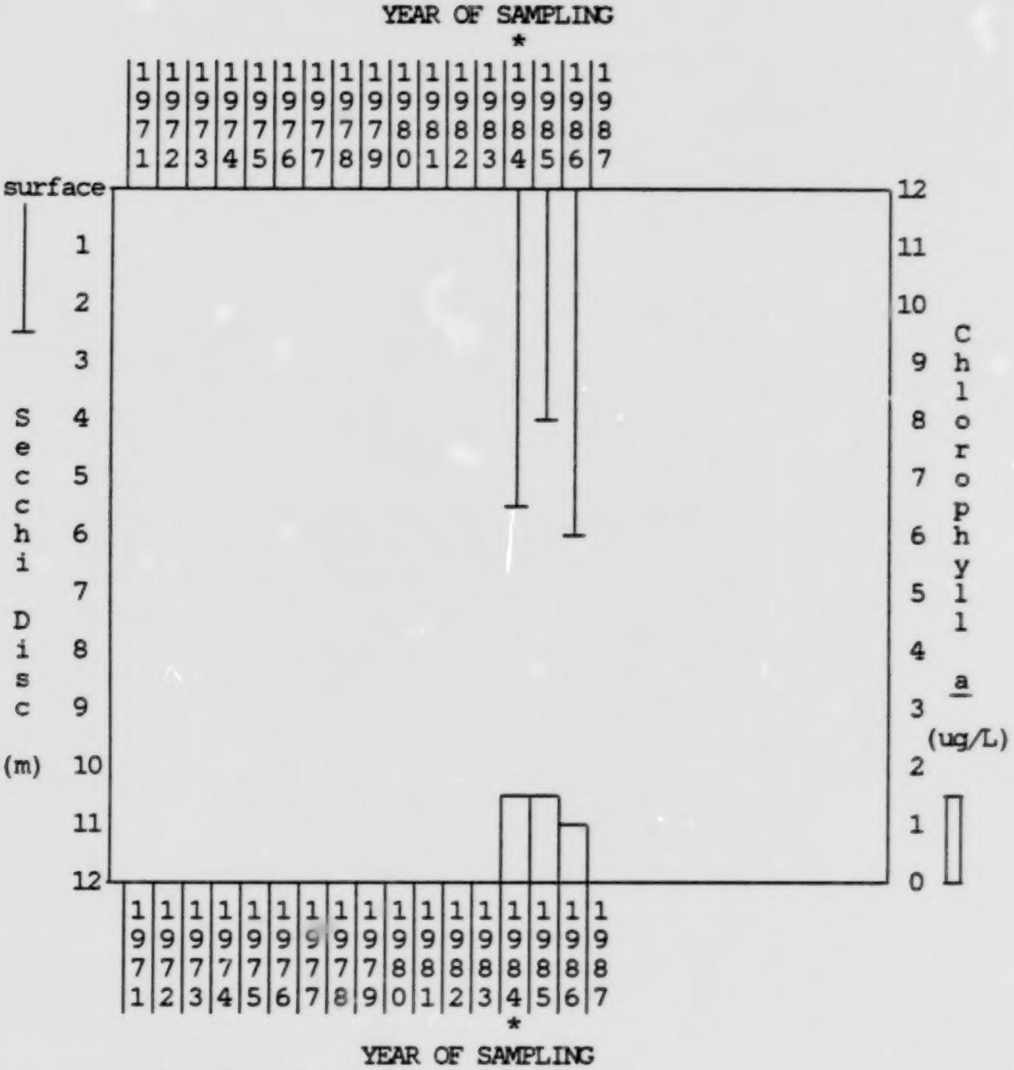


Figure 2 : Summary of results for Secchi disc (m) and chlorophyll a (ug/L) from Clear Lake (North End) in Haliburton from 1984 and 1986. Seasonal mean data (more than 6 sampling dates) unless otherwise specified. A minimum of 4 results was required for graphing.



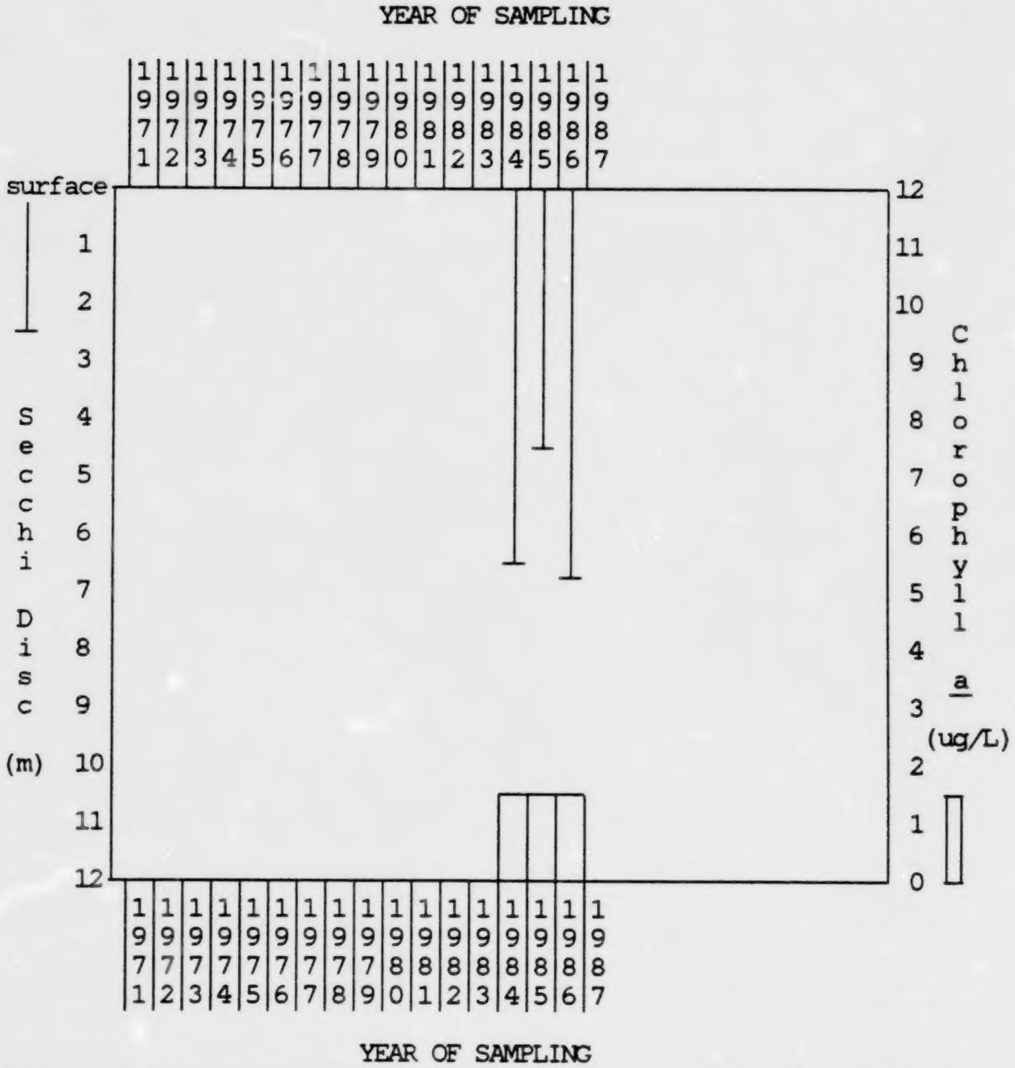
* based on 4 results

There are now 3 years of available data for the North End station on Clear Lake.

The degree of water clarity was high in 1984 and 1986, but only moderately high in 1985. The reason for this is not apparent since densities of suspended algae were low for all three years.

We hope sampling continues in 1987 in order to establish a long-term record of water quality for this station.

Figure 2 : Summary of results for Secchi disc (m) and chlorophyll a (ug/L) from Clear Lake (Centre) in Haliburton from 1984 to 1986. Seasonal mean data (more than 6 sampling dates) only. A minimum of 4 results are required for graphing.



There are 3 years of available data for Clear Lake (Centre Station) in Haliburton.

The degree of water clarity was high in 1984 and 1986, but only moderately high in 1985. The reason for this is not apparent since the densities of suspended algae were low for all three years at this location. We hope that sampling continues in 1987 in order to establish a long term record of water quality for this station.

CLEARWATER LAKE

MORRISON WARD
TOWN OF GRAVENHURST

DISTRICT MUNICIPALITY OF
MUSKOKA

Table 1: Secchi Disc (m) and chlorophyll a (ug/L) data collected from Clearwater Lake in 1986

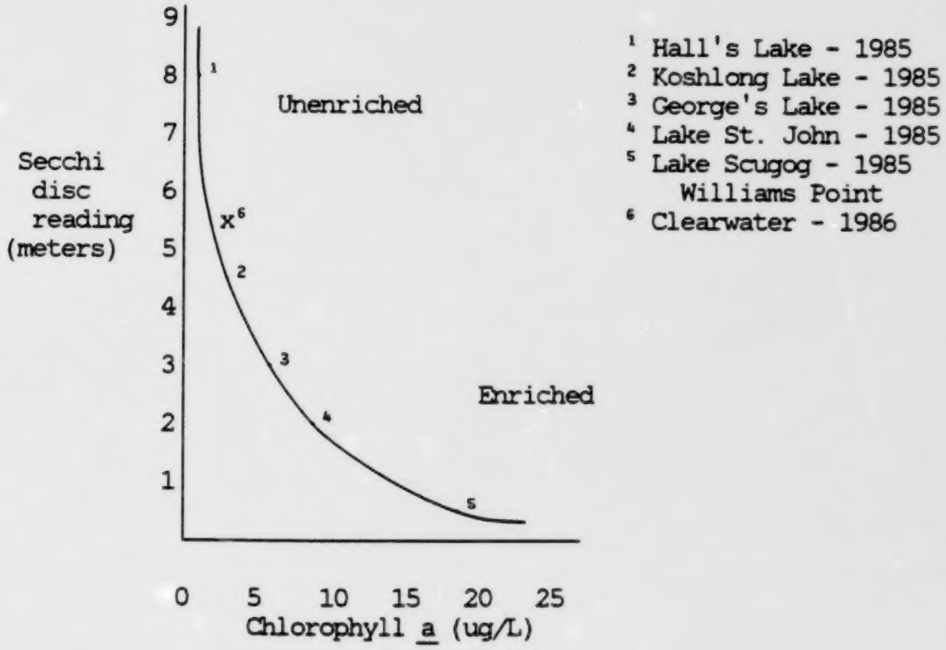
Station	Centre		North		West	
Date	S.D.	Chl.a	S.D.	Chl.a	S.D.	Chl.a
May 25	4.9	2.7				
June 8	5.0	2.3				
June 15	5.5	2.0				
June 22	4.0	2.1	4.0	NR		
June 29			5.0	2.0		
June 30					5.5	2.3
July 6	5.0	2.6				
July 19	5.5	UR				
July 20						
Aug 4	5.5	1.4				
Aug 17	6.0	2.3				
Sept 1	6.0	2.6				
Sept 14	5.5	2.5				
Sept 21	5.5	2.4				
	-----	-----				
	5.3	2.3				

UR - Unreliable result

NR - No result

For text see attached page.

FIGURE 1: The relationship between Secchi disc and chlorophyll a for Clearwater Lake in 1986 and a number of recreational lakes in Central Region. All data are seasonal averages.



CLEARWATER LAKE (page 2)

MORRISON WARD

DISTRICT MUNICIPALITY OF MUSKOKA

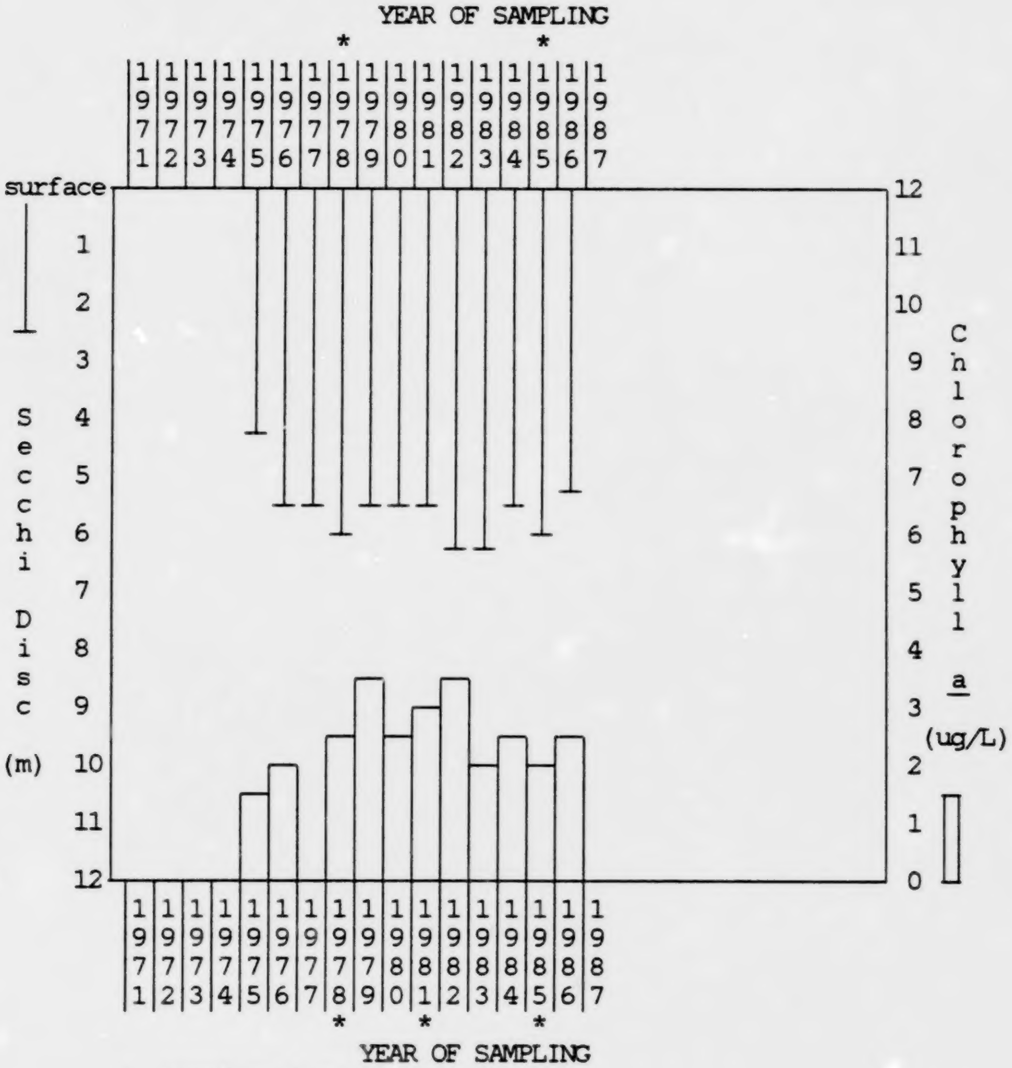
A good sampling program was conducted on Clearwater Lake in 1986 at the Centre station, with sampling on 11 occasions. Insufficient sampling was done at the North and West stations to obtain meaningful results.

Secchi disc readings ranged from 4.0 to 6.0 m at the Centre station, and averaged 5.3 m, indicating a high degree of water transparency.

Chlorophyll a concentrations were moderately low, ranging from 1.4 ug/L to 2.7 ug/L and averaging 2.3 ug/L, indicating moderately low levels of suspended algae.

Based on the 1986 results, Clearwater Lake would be considered borderline between unenriched and moderately enriched, with good water quality.

Figure 2 : Summary of results for Secchi disc (m) and chlorophyll a (ug/L) from Clearwater Lake (Centre station) from 1975 to 1986. Seasonal mean data (more than 6 sampling dates) unless otherwise specified. A minimum of 4 results was required for graphing.



* based on 5 sample results

A good historical record of water quality has been established for Clearwater Lake with 10 years of data.

These results indicate that the degree of water transparency from 1976 to 1986 has been consistently high, ranging from 5.3 to 6.3 m. In 1975, a low reading of 4.3 m was recorded.

Chlorophyll a concentrations increased from 1.5 ug/L in 1975 to 3.4 ug/L in 1979 and has ranged from 2.0 to 3.5 ug/L since 1980. These concentrations indicate that Clearwater Lake supports moderate densities of suspended algae.

There has been no noticeable change in water quality in Clearwater Lake with data indicating a lake borderline between moderately enriched and enriched.

Insufficient sampling was done at the North and West stations for graphing.

CLEMENT LAKE

MONMOUTH TOWNSHIP

COUNTY OF HALIBURTON

Table 1: Secchi Disc (m) and chlorophyll a (ug/L) data collected from Clement Lake in 1986

Station	West End		East End		North End		South End	
Date	S.D.	Chl.a	S.D.	Chl.a	S.D.	Chl.a	S.D.	Chl.a
July 6	4.0	2.1	4.0	2.3				
July 20	4.0	1.6	4.0	1.5				
Aug. 4	3.0	1.9	4.0	2.2				
Aug 17					4.0	1.0	4.0	1.1
Sept 1	3.0	1.4	5.0	1.5				
	3.5	1.8	4.3	1.9				

Sampling on Clement Lake was done on 4 occasions at the West End and East end stations, and on only 1 occasion at the North and South End stations. Secchi disc readings averaged 3.5 m at the West End and 4.3 m at the East End, indicating a moderate degree of water transparency.
Chlorophyll a readings averaged 1.8 ug/L at the West End and 1.9 ug/L at the East End, indicating low densities of suspended algae.
Based on 1986 results, Clement Lake would be considered borderline between unenriched and moderately enriched. If sampling is done in 1987, two stations would be adequate for this size of lake, and an increase in sampling frequency to 6 occasions would be advisable.

FIGURE 1: The relationship between Secchi disc and chlorophyll a for Clement Lake in 1986 and a number of recreational lakes in Central Region. All data are seasonal averages.

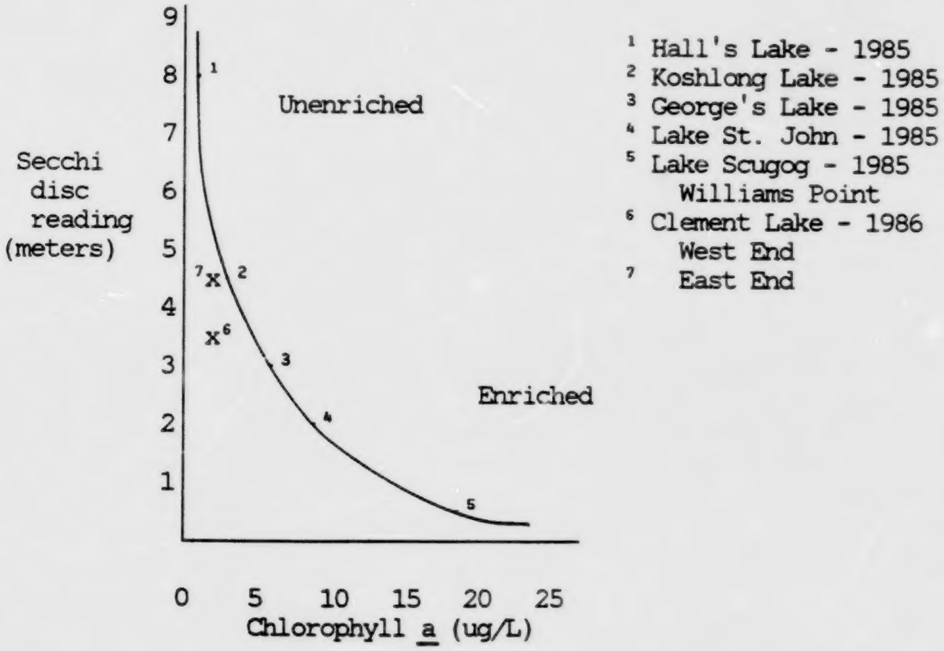
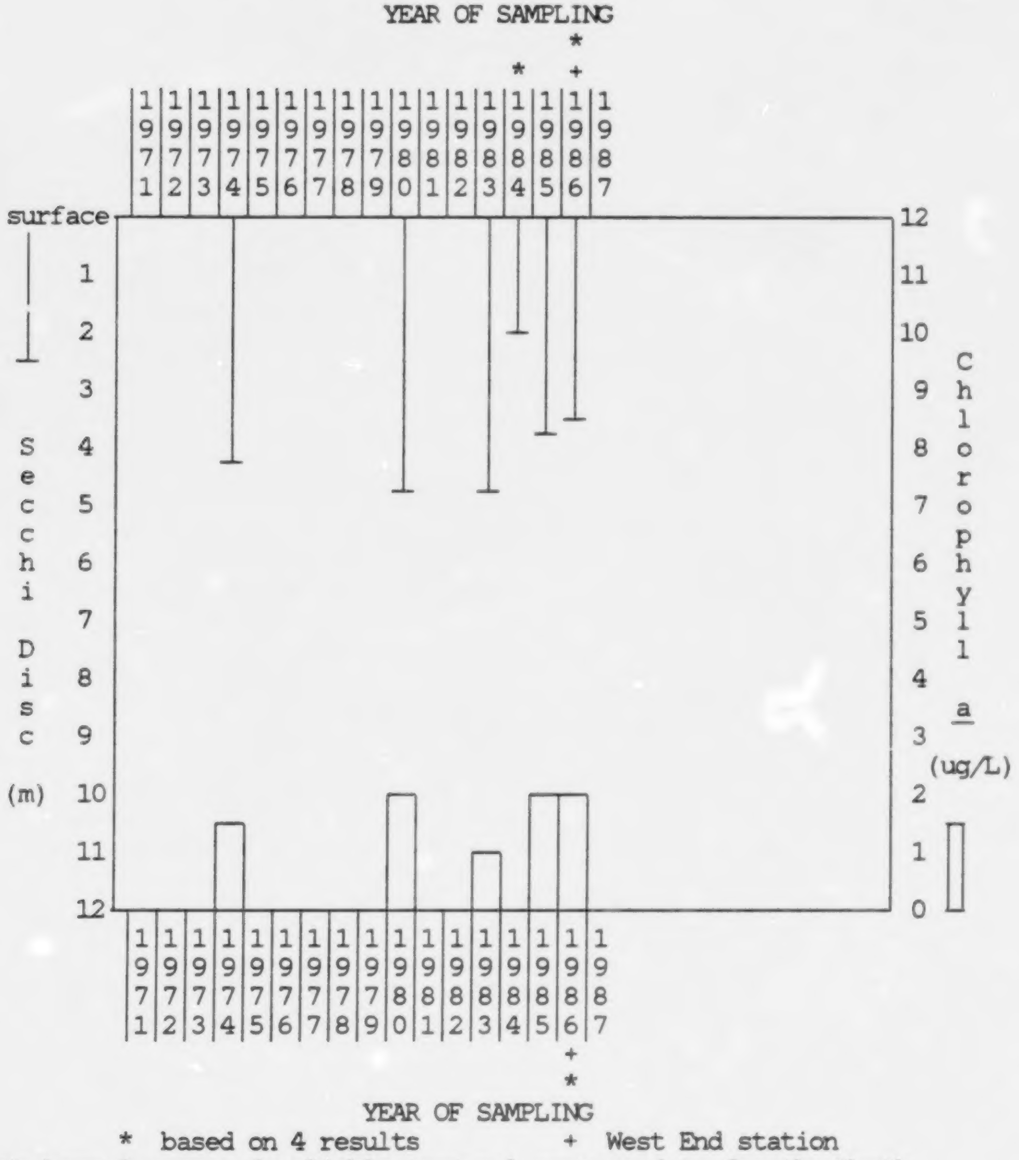


Figure 2 : Summary of results for Secchi disc (m) and chlorophyll a (ug/L) from Clement Lake (North or West station) from 1974 to 1986. Seasonal mean data (more than 6 sampling dates) unless otherwise specified. A minimum of 4 results were required for graphing.



* based on 4 results + West End station

We have 3 years of reliable seasonal average data for the North station of Clement Lake, and 1 year from the West End station (the North End station was not sampled frequently enough, in 1986, to obtain meaningful data). These results indicate that there has been no overall change in water quality since 1974.

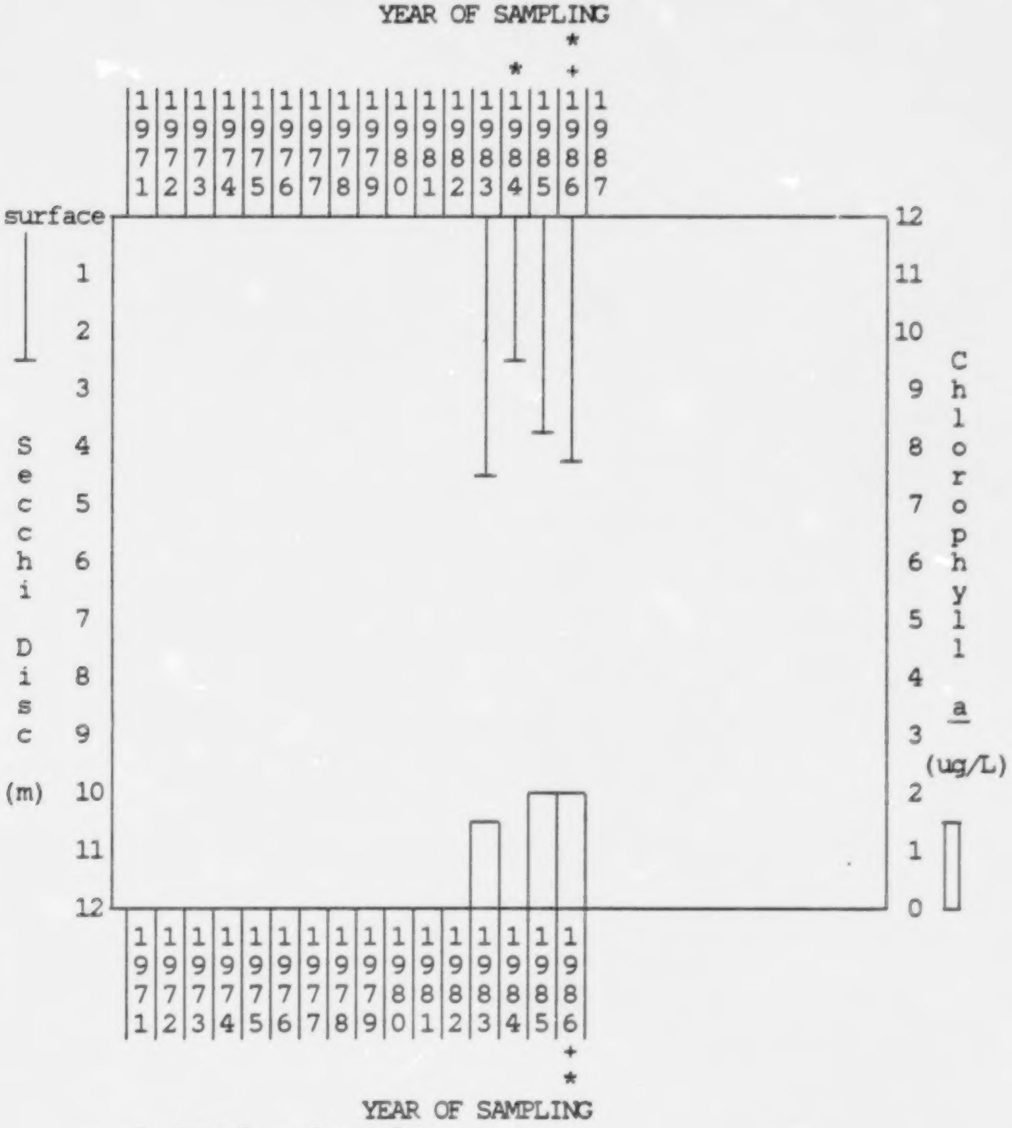
The Secchi disc readings have ranged from 4.3 to 4.7 m indicating a moderately high degree of water clarity.

Chlorophyll a concentrations have ranged from 1.2 to 2.2 ug/L indicating moderately low densities of suspended algae.

The 1980 Secchi disc results were based on 4 readings and were unusually low compared to data from other years.

We hope that sampling continues in 1987 on Clement Lake. One station would adequately reflect the overall lake water quality.

Figure 2 : Summary of results for Secchi disc (m) and chlorophyll a (ug/L) from Clement Lake (South and East station) from 1983 to 1986. Seasonal mean data (more than 6 sampling dates) unless otherwise specified. A minimum of 4 results were required for graphing.



* based on 4 results

+ East End station

There are 2 years of reliable seasonal average data for the South station of Clement Lake, and 1 year from the East End station. These results indicate a moderately high degree of water clarity with Secchi disc readings ranging around 4 m. Chlorophyll a concentrations were generally less than 2 ug/L indicating low densities of suspended algae. These results are very similar to the results from the North station of the lake. One station would be adequate to reflect water quality conditions on a small lake such as Clement Lake.

CREGO LAKE

SOMERVILLE TOWNSHIP

VICTORIA COUNTY

Table 1: Secchi Disc (m) and chlorophyll a (ug/L) data collected from Crego Lake in 1986

Station	Centre	
Date	S.D.	Chl.a
May 18	3.8	2.4
June 22	2.0	1.4
July 6	3.0	EF
July 13	3.0	15.5
July 20	3.5	8.5
July 27	3.5	11.8
Aug 4	3.5	9.6
Aug 17	4.0	2.8
Sept 1	3.5	5.4
	3.3	7.2

EF - Laboratory equipment failure.

An excellent sampling program was done on Crego Lake in 1986, with sampling on 9 occasions.
Secchi disc readings ranged from 2.0 to 4.0 m and averaged 3.3 m, indicating a moderate degree of water transparency.
Chlorophyll a concentrations varied widely from 1.4 ug/L to 15.5 ug/L and averaged 7.2 ug/L, indicating high densities of suspended algae.
Based on these results, Crego Lake would be considered borderline between enriched and moderately enriched, with an algae bloom during July.

FIGURE 1: The relationship between Secchi disc and chlorophyll a for Crego Lake in 1986 and a number of recreational lakes in Central Region. All data are seasonal averages.

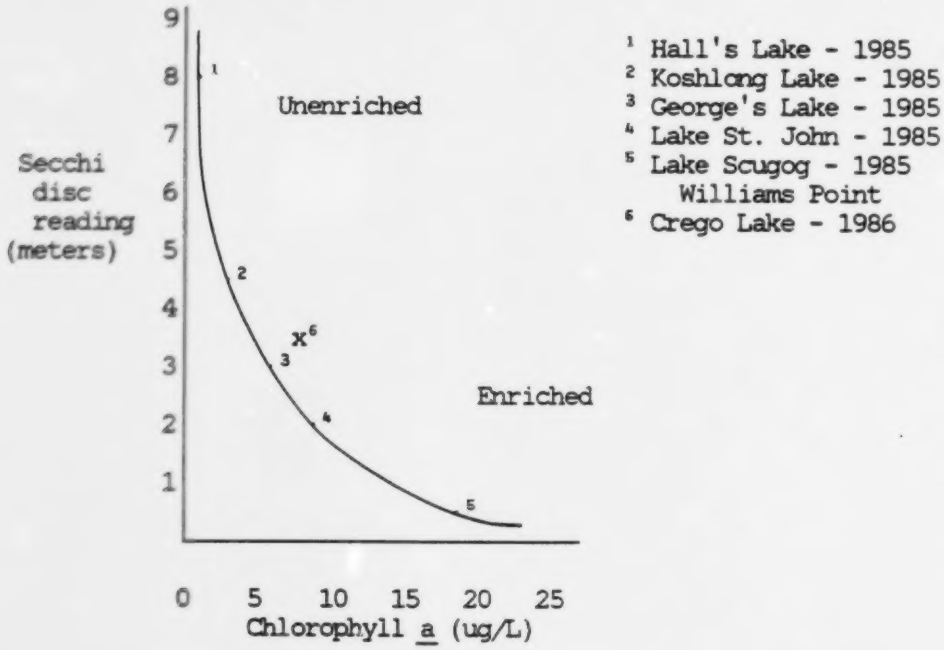
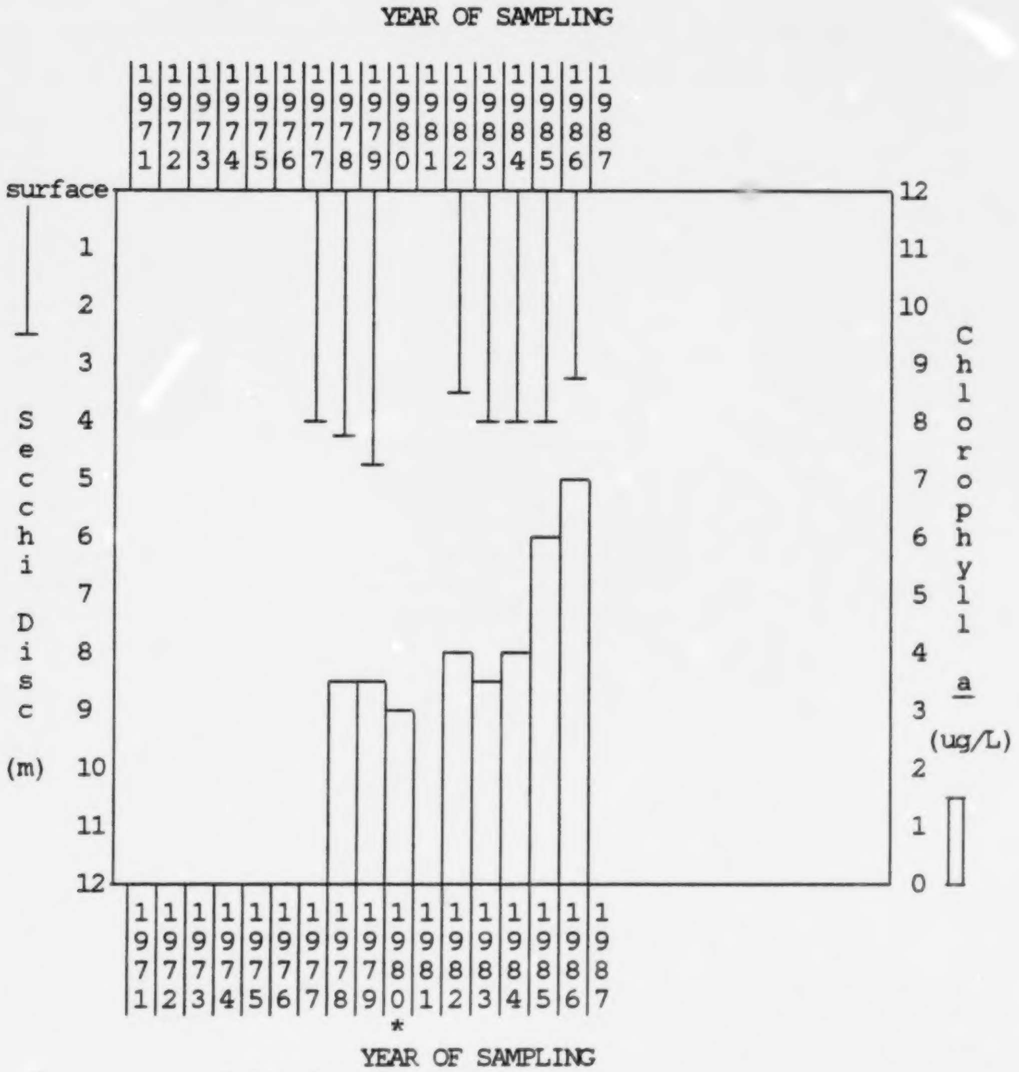


Figure 2 : Summary of results for Secchi disc (m) and chlorophyll a (ug/L) from Crego Lake from 1977 to 1986.
Seasonal mean data (more than 6 sampling dates) unless otherwise specified. A minimum of 4 results was required for graphing.



* Based on 4 results

The 8 years of data available for Crego Lake indicates that the degree of water clarity has been moderately high and the densities of suspended algae have also been moderately high except in 1985 and 1986 when high densities of suspended algae were observed.
We hope that sampling continues in 1987 to monitor any long-term changes in water quality.

CRYSTAL LAKE

GALWAY TOWNSHIP

PETERBOROUGH COUNTY

Table 1: Secchi Disc (m) and chlorophyll a (ug/L) data collected from Crystal Lake in 1986

Station	Centre		Clear Bay	
Date	S.D.	Chl.a	S.D.	Chl.a
June 1	5.5	1.3	5.0	1.6
June 14	5.5	4.8	5.0	3.3
July 6	4.5	EF	5.0	EF
July 20	4.0	2.3	4.0	3.6
Aug 5	5.0	3.5	4.0	3.4
Aug 17	5.5	2.7	4.5	3.4
Aug 31	5.0	2.3	5.0	3.6
	5.0	2.8	4.6	3.2

EF - Laboratory equipment failure

A good sampling program was conducted on Crystal Lake in 1986, with 7 sampling occasions at two stations. Secchi disc readings ranged from 4.0 to 5.5 m, and averaged 5.0 m at the Centre station and 4.6 m at Clear Bay, indicating a moderately high degree of water transparency. Chlorophyll a concentrations averaged 2.8 ug/L at the Centre Station and 3.2 ug/L at Clear Bay, indicating moderate densities of suspended algae. Based on these results, Crystal Lake is a moderately enriched lake with good water quality.

FIGURE 1: The relationship between Secchi disc and chlorophyll a for Crystal Lake in 1986 and a number of recreational lakes in Central Region. All data are seasonal averages.

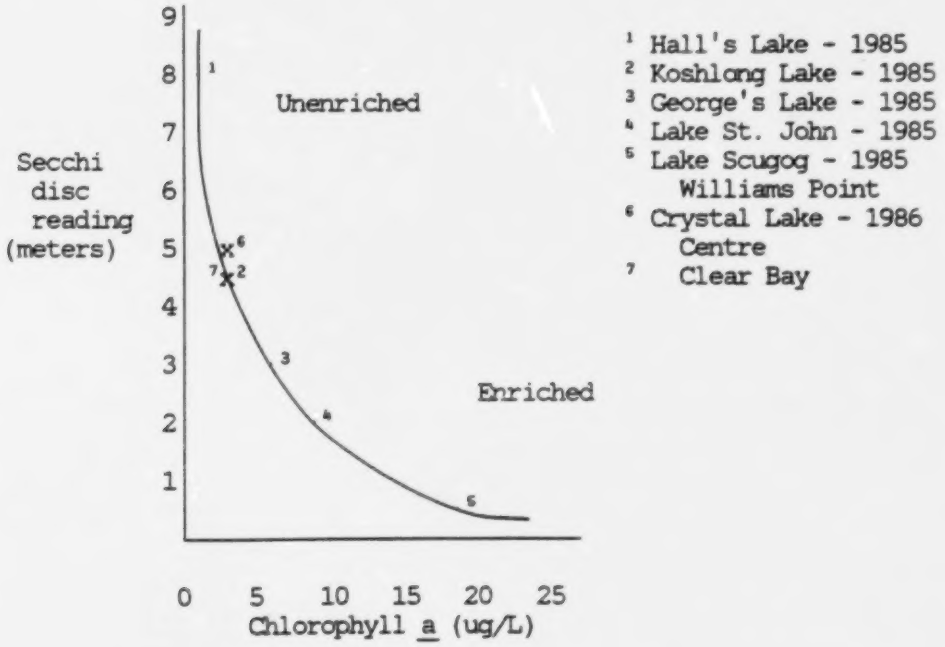
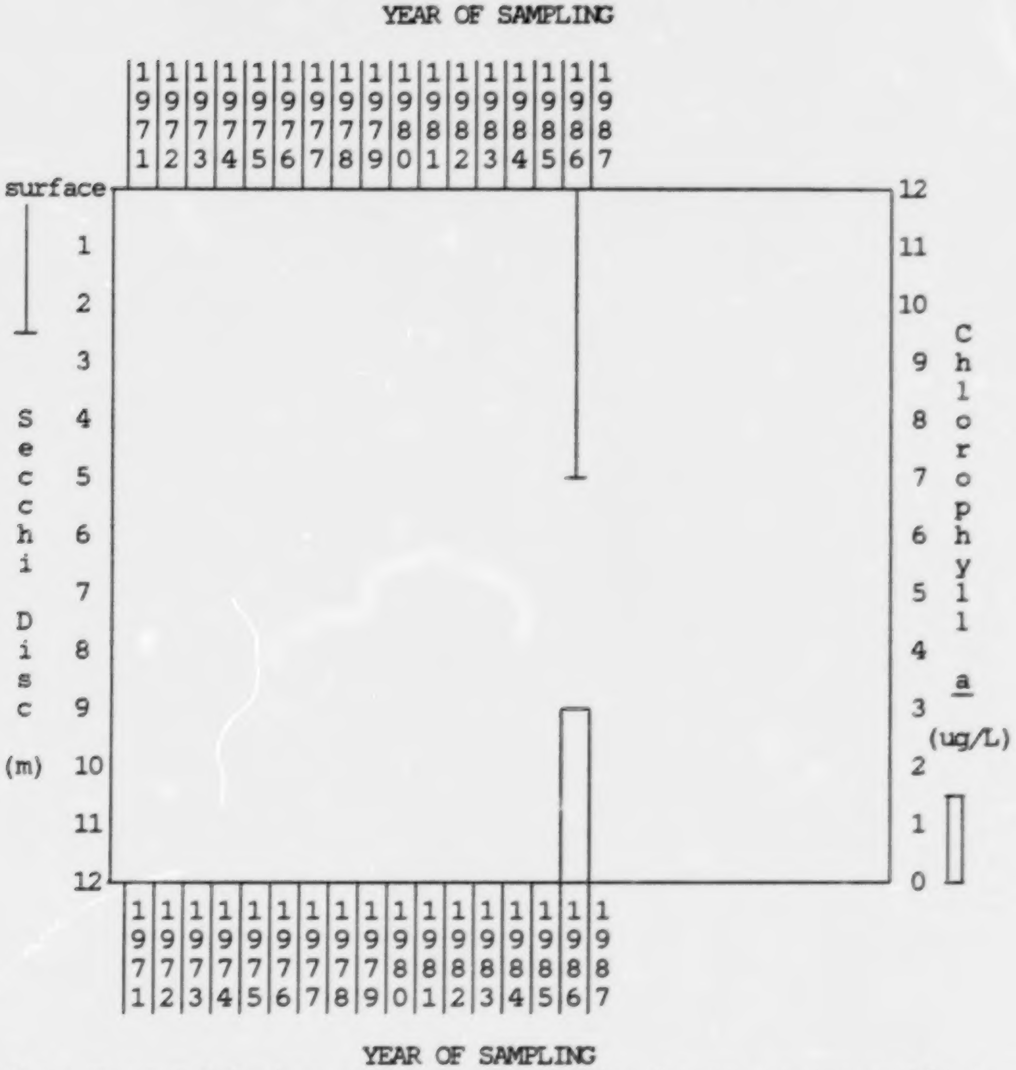
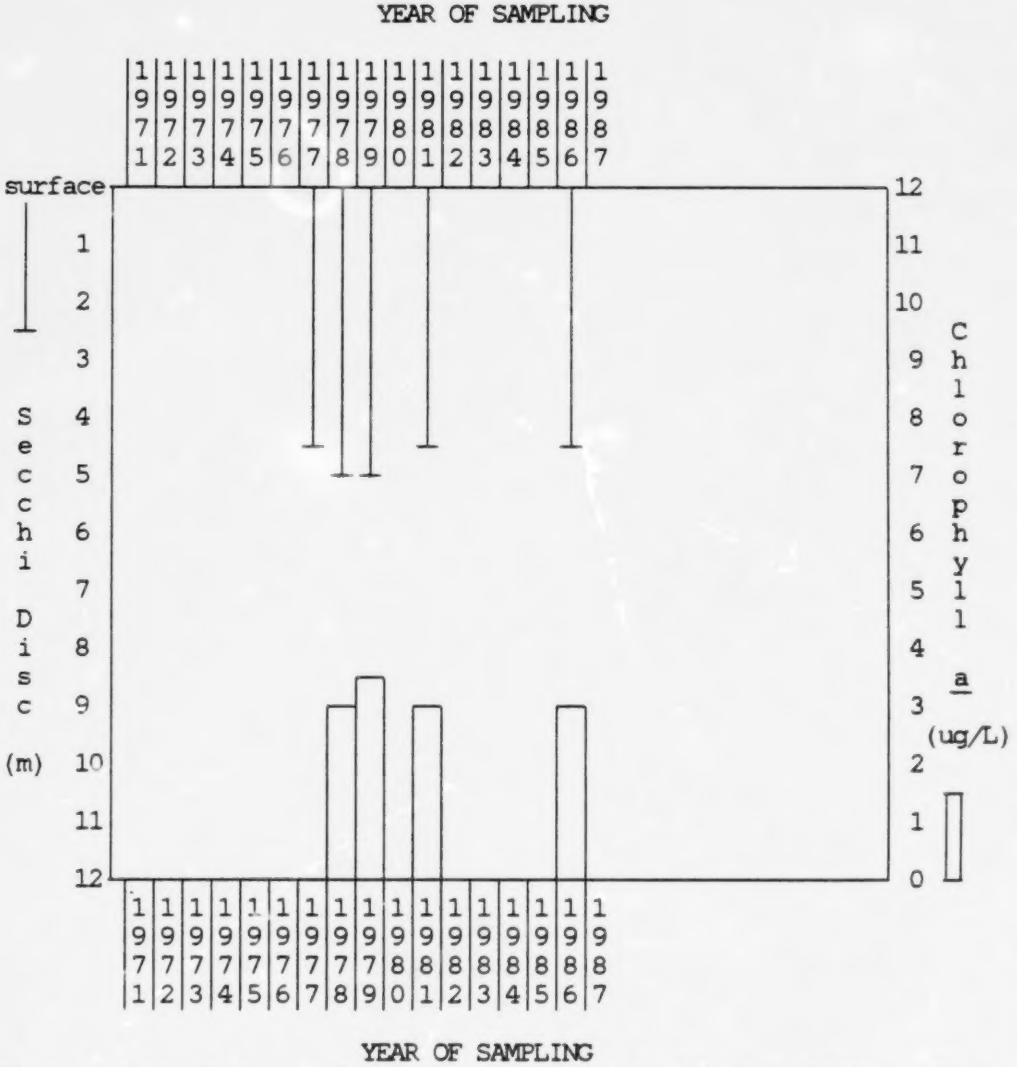


Figure 2 : Summary of results for Secchi disc (m) and chlorophyll a (ug/L) from Crystal Lake (Centre station) for 1986. Seasonal mean data (more than 6 sampling dates) unless otherwise specified. A minimum of 4 results were required for graphing.



Since Crystal Lake has only been sampled for 1 year, we are unable to make any comments regarding long-term water quality changes. We hope you continue to sample in 1987, in order to establish a good historical record of water quality for Crystal Lake at this location.

Figure 2 : Summary of results for Secchi disc (m) and chlorophyll a (ug/L) from Crystal Lake (Clear Bay) for 1977 to 1986. Seasonal mean data (more than 6 sampling dates) unless otherwise specified. A minimum of 4 results were required for graphing.



There are now 5 years of data for Crystal Lake, Centre Station. These results indicate no overall change in water quality in the lake since 1977. The Secchi disc readings have consistently been moderately high at 4.3 to 5.2 m, indicating a moderately high to high degree of water clarity.

The chlorophyll a concentrations have been consistently moderate, ranging from 3.1 to 3.6 ug/L, indicating moderate densities of suspended algae.

We hope that sampling continues in 1987 in order to maintain a long-term record of water quality at this location.

DAVIS LAKE

LUTTERWORTH TOWNSHIP

HALIBURTON COUNTY

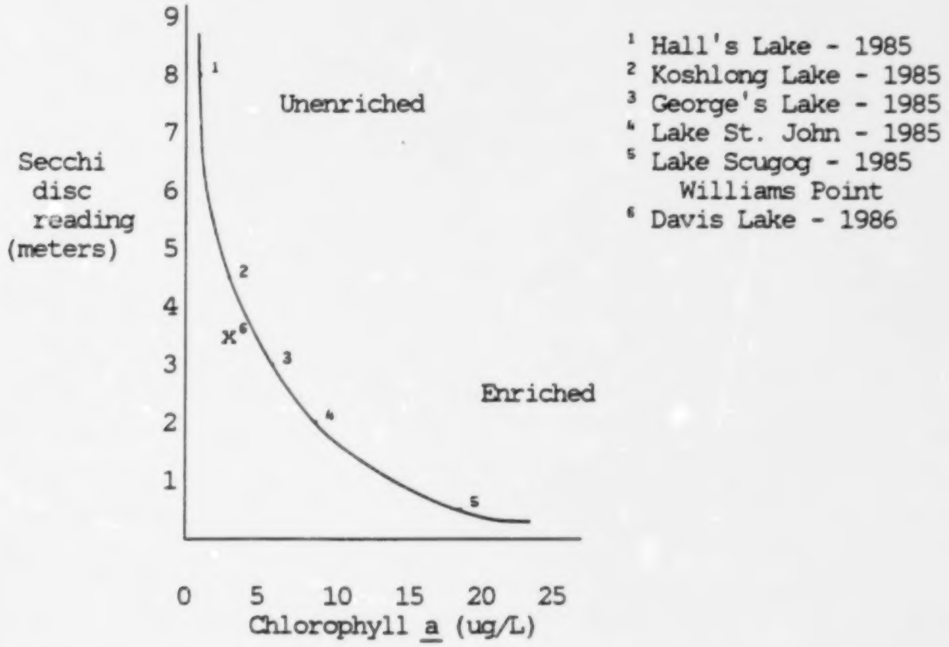
Table 1: Secchi Disc (m) and chlorophyll a (ug/L) data collected from Davis Lake in 1986

Station	South		Deep Bay off Island		West End Bay	
Date	S.D.	Chl.a	S.D.	Chl.a	S.D.	Chl.a
June 1	2.75	1.7				
June 8	3.5	2.8				
June 15	3.5	3.7				
July 1	3.25	2.7	4.5	UR	4.5	EF
July 6	3.5	5.6				
July 20	3.8	5.5	4.5			
Aug 4	3.4	3.4				
Aug 10	3.25	3.7				
Aug 18	4.0	3.1				
	3.4	3.6				

UR - Unreliable result
EF - Laboratory equipment failure.

For text see attached page.

FIGURE 1: The relationship between Secchi disc and chlorophyll a for Devils Lake in 1986 and a number of recreational lakes in Central Region. All data are seasonal averages.



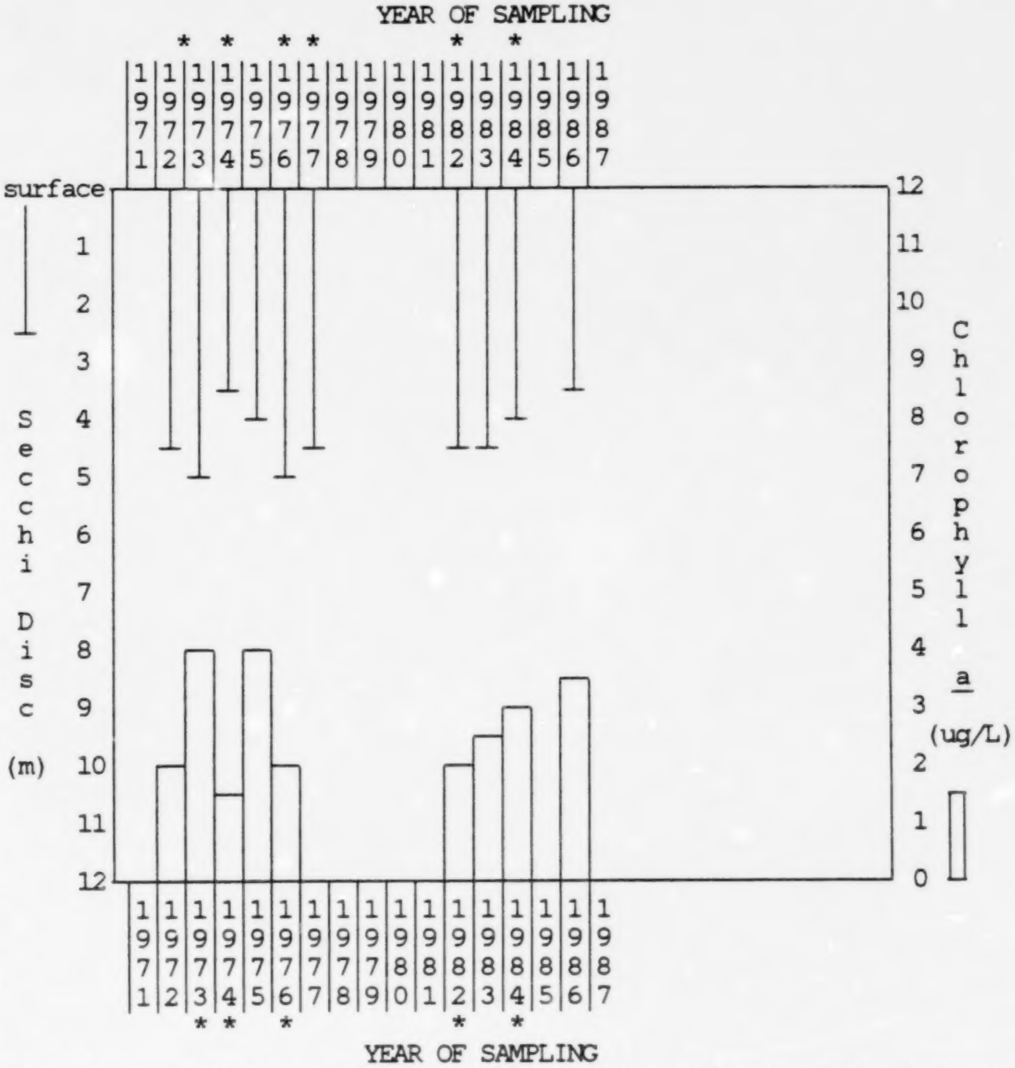
DAVIS LAKE (page 2)

LUTTERWORTH TOWNSHIP

HALIBURTON COUNTY

A good sampling program was conducted on the South station of Davis Lake in 1986 with 9 sampling occasions. Insufficient sampling was done in the Deep Bay and West End Bay for meaningful results.
Secchi disc readings ranged from 2.75 to 4.0 m at the South station, and averaged 3.4 m, indicating a moderate degree of water transparency.
Chlorophyll a concentrations ranged from 1.7 ug/L to 5.6 ug/L and averaged 3.6 ug/L. This indicates moderate to high densities of suspended algae.
Based on these results, Davis Lake would be considered to be a moderately enriched lake.

Figure 2 : Summary of results for Secchi disc (m) and chlorophyll a (ug/L) from Davis Lake (South station) for 1972 to 1986. Seasonal mean data (more than 6 sampling dates) unless otherwise specified. A minimum of 4 results was required for graphing.



There are now 10 years of data for Davis Lake. These results indicate that there has been no overall change in water quality.
Secchi disc readings are moderate, ranging from 3.6 to 4.9 m, indicating a moderate degree of water clarity.
Chlorophyll a concentrations have been variable, ranging from 1.4 ug/L in 1974 to 3.9 ug/L in 1975, indicating moderate densities of suspended algae present.
We hope you continue to sample Davis Lake in 1987, in order to maintain a long-term record of water quality.

DEVILS LAKE

LUTTERWORTH TOWNSHIP

HALIBURTON COUNTY

Table 1: Secchi Disc (m) and chlorophyll a (ug/L) data collected from Devils Lake in 1986

Station	North		South	
Date	S.D.	Chl.a	S.D.	Chl.a
May 26	2.0	5.2	2.0	5.2
June 8	2.0	3.2	2.0	4.1
	2.0	2.9	2.0	2.4
June 15	2.0	3.3	2.5	3.1
July 1	2.5	6.9	2.25	5.7
July 6	2.0	EF	2.0	EF
July 20	2.0	13.5	2.0	9.5
Aug 11	2.25	10.3	2.25	12.1
Aug 24	2.5	6.6	2.5	8.1
	2.1	6.5	2.2	6.3

EF - Laboratory equipment failure.

A good sampling program was conducted on Devil's Lake in 1986, with sampling on 9 occasions. Secchi disc readings were similar for both stations, averaging 2.1 m at the North station and 2.2 m at the South station, indicating a low degree of water transparency. Chlorophyll a concentrations were also similar, averaging 6.5 ug/L at the North station, and 6.3 ug/L at the South station, indicating a high density of suspended algae. Based on these results, Devil's Lake would be considered enriched.

FIGURE 1: The relationship between Secchi disc and chlorophyll a for Devils Lake in 1986 and a number of recreational lakes in Central Region. All data are seasonal averages.

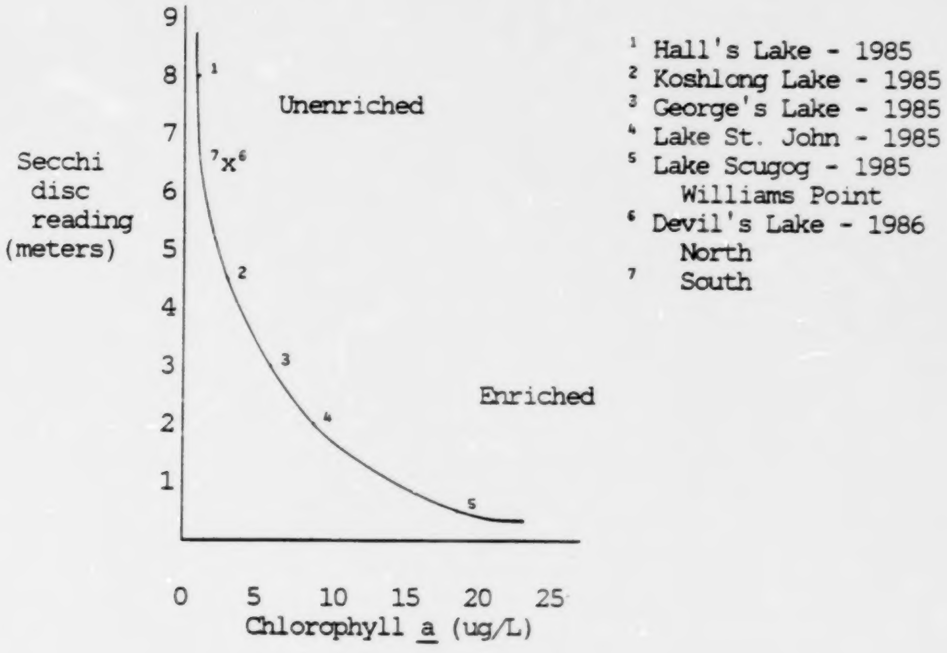
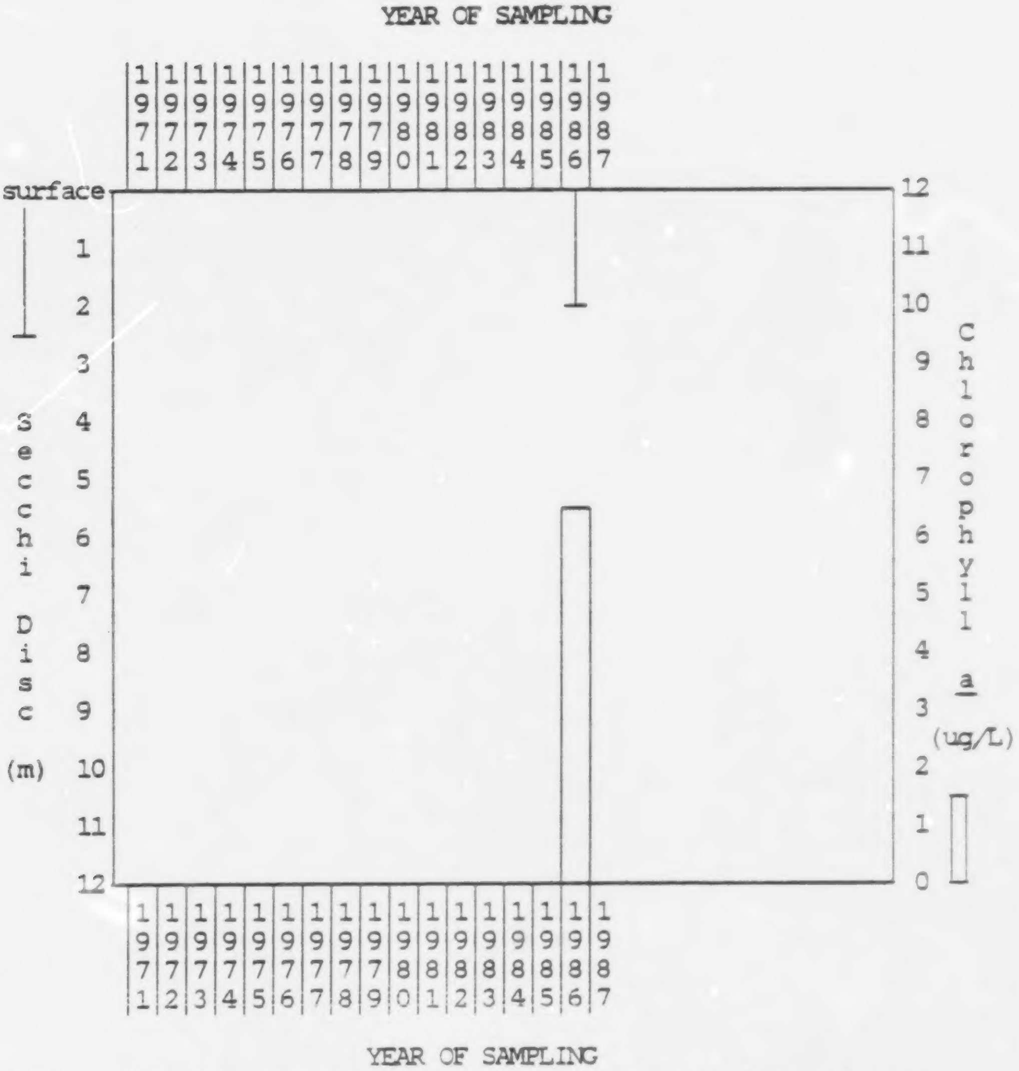


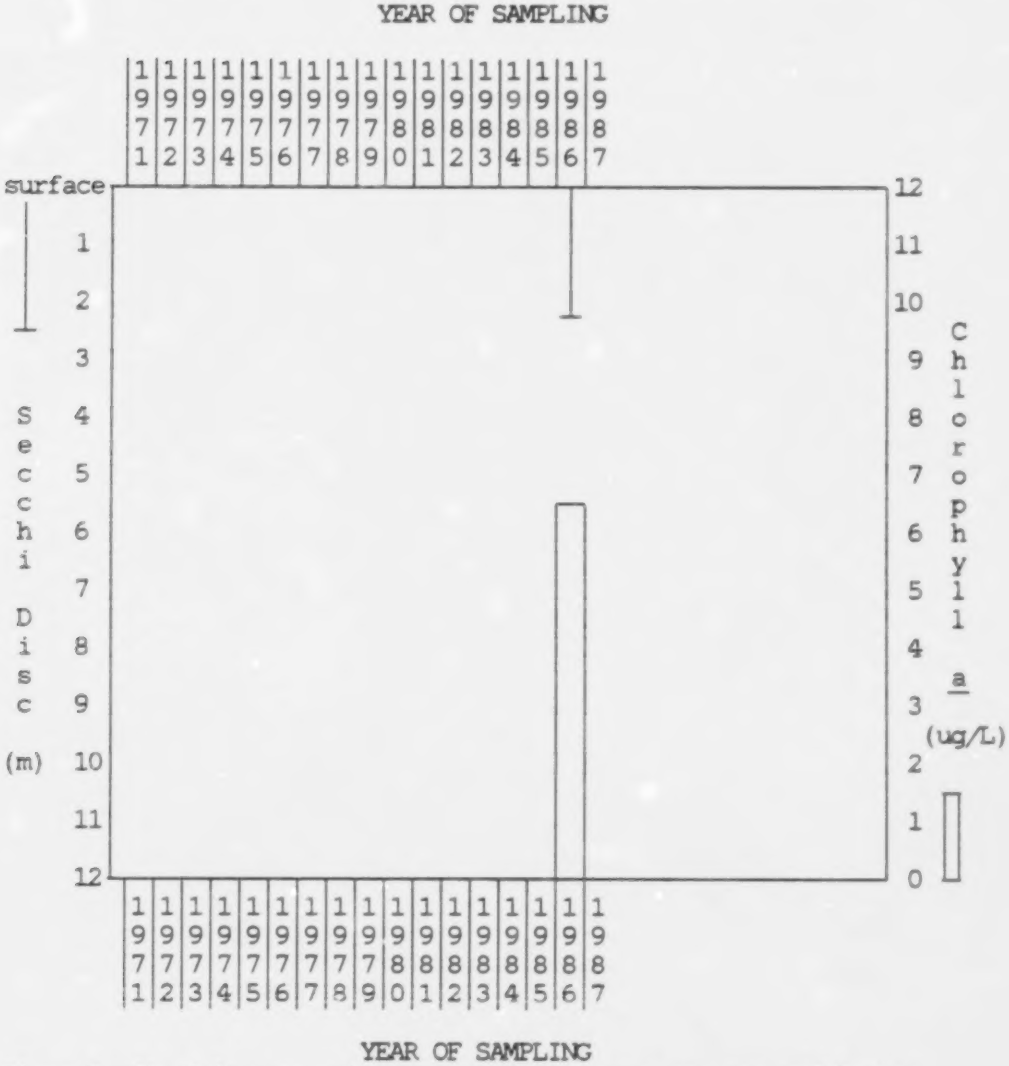
Figure 2 : Summary of results for Secchi disc (m) and chlorophyll a (ug/L) from Devils Lake (North station) in 1986. Seasonal mean data (more than 6 sampling dates) unless otherwise specified. A minimum of 4 results was required for graphing.



Since Devils Lake was only sampled for 1 year, we are unable to make any comments regarding long-term water quality changes at this location.

We hope sampling continues in 1987, in order to establish a good historical record of water quality for Devils Lake at this location.

Figure 2 : Summary of results for Secchi disc (m) and chlorophyll a (ug/L) from Devils Lake (South station) in 1986. Seasonal mean data (more than 6 sampling dates) unless otherwise specified. A minimum of 4 results was required for graphing.



Since Devils Lake was only sampled for 1 year, we are unable to make any comments regarding long-term water quality changes at this location.

We hope sampling continues in 1987, in order to establish a good historical record of water quality for Devils Lake at this location.

DOESKIN (DOE) LAKE

MUSKOKA WARD
TOWN OF GRAVENHURST

DISTRICT MUNICIPALITY OF
MUSKOKA

Table 1: Secchi Disc (m) and chlorophyll a (ug/L) data collected from Doeskin Lake in 1986

Station	Main	
Date	S.D.	Chl.a
June 15	1.5	3.0
July 6	1.5	3.3
July 20	1.5	6.7
July 27	1.5	6.3
Aug 4	1.5	4.6
Aug 10	1.5	5.7
Aug 17	1.5	3.9
Aug 24	1.5	3.6
Sept 1	1.5	3.0
	-----	-----
	1.5	4.5
	-----	-----

A good sampling program was conducted on Doeskin Lake in 1986 with 9 sampling occasions. Secchi disc readings were consistent at 1.5 m, indicating a uniformly low degree of water transparency. Chlorophyll a concentrations ranged from 3.0 to 6.7 ug/L and averaged 4.5 ug/L, indicating moderately high densities of suspended algae. Based on 1986 results, Doeskin Lake would be considered enriched.

FIGURE 1: The relationship between Secchi disc and chlorophyll a for Doeskin Lake in 1986 and a number of recreational lakes in Central Region. All data are seasonal averages.

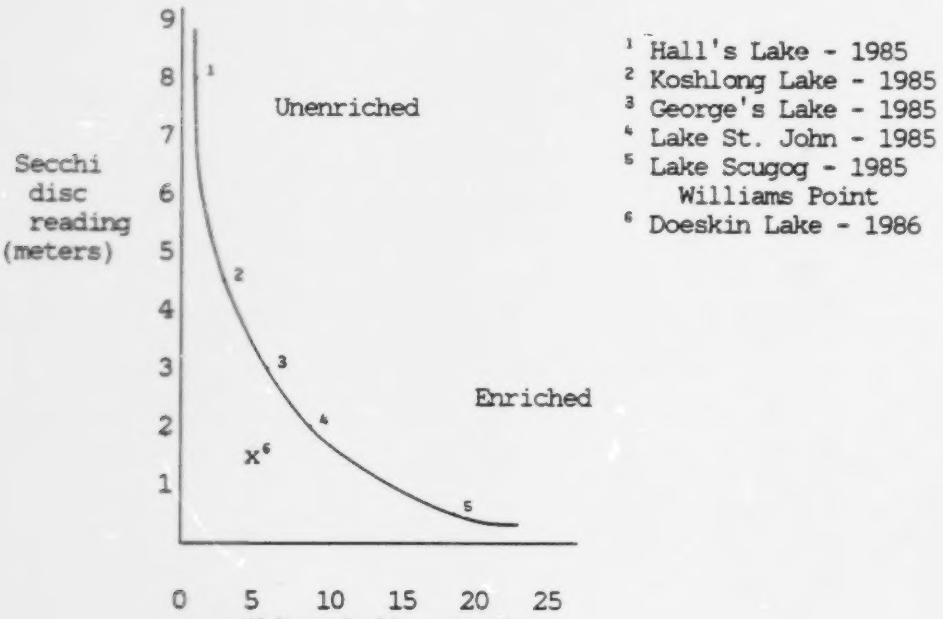
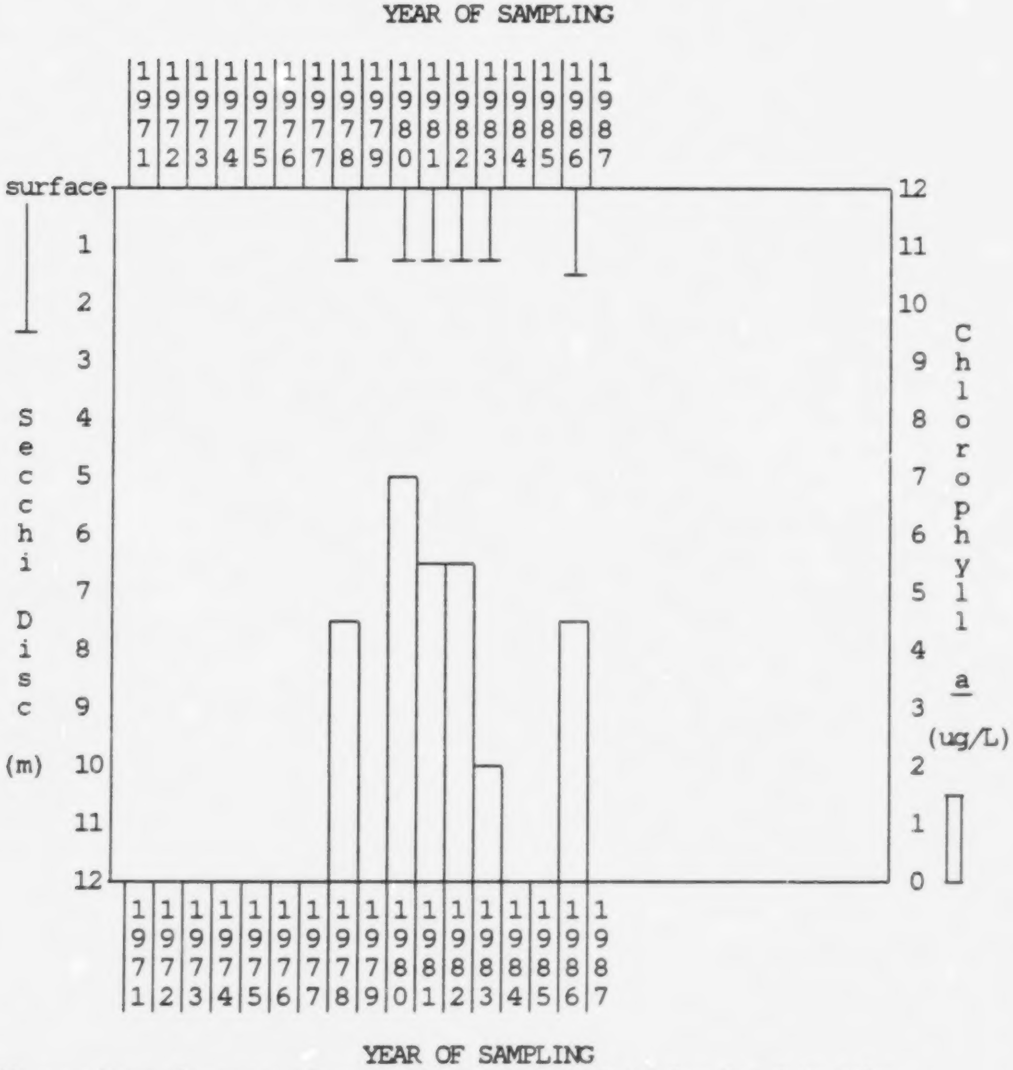


Figure 2 : Summary of results for Secchi disc (m) and chlorophyll a (ug/L) from Doeskin Lake from 1978 to 1983, and 1986. Seasonal mean data (more than 6 sampling dates) unless otherwise specified. A minimum of 4 results was required for graphing.



We now have 6 years of reliable seasonal data for Doeskin Lake. These results indicate no overall change in water quality in the lake since 1978. The Secchi disc readings have been consistently low at 1.2 to 1.5 m indicating a low degree of water clarity.

The chlorophyll a concentrations have been highly variable ranging from 2.2 to 7.0 ug/L indicating that densities of suspended algae range from moderately low to high depending on the year.

Insufficient sampling was done in 1984 and 1985 to include the data on the graph.

We hope that sampling continues in 1987 to monitor any long-term changes in water quality.

EAST LAKE

HARCOURT TOWNSHIP

COUNTY OF HALIBURTON

Table 1: Secchi Disc (m) and chlorophyll a (ug/L) data collected from East Lake in 1986

Station	West End	
Date	S.D.	Chl.a
June 1	5.0	3.0

East Lake was sampled on only 1 occasion in 1986, therefore no meaningful results were obtained.
If sampling is done in 1987, increase sampling frequency to 6 occasions if possible.

FIGURE 1: The relationship between Secchi disc and chlorophyll a for East Lake in 1986 and a number of recreational lakes in Central Region. All data are seasonal averages.

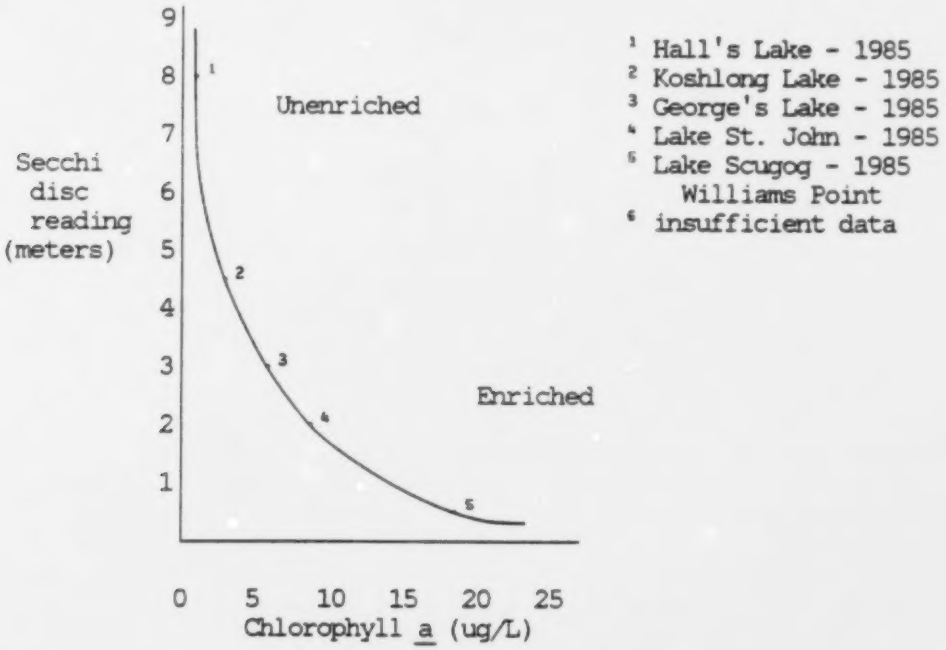
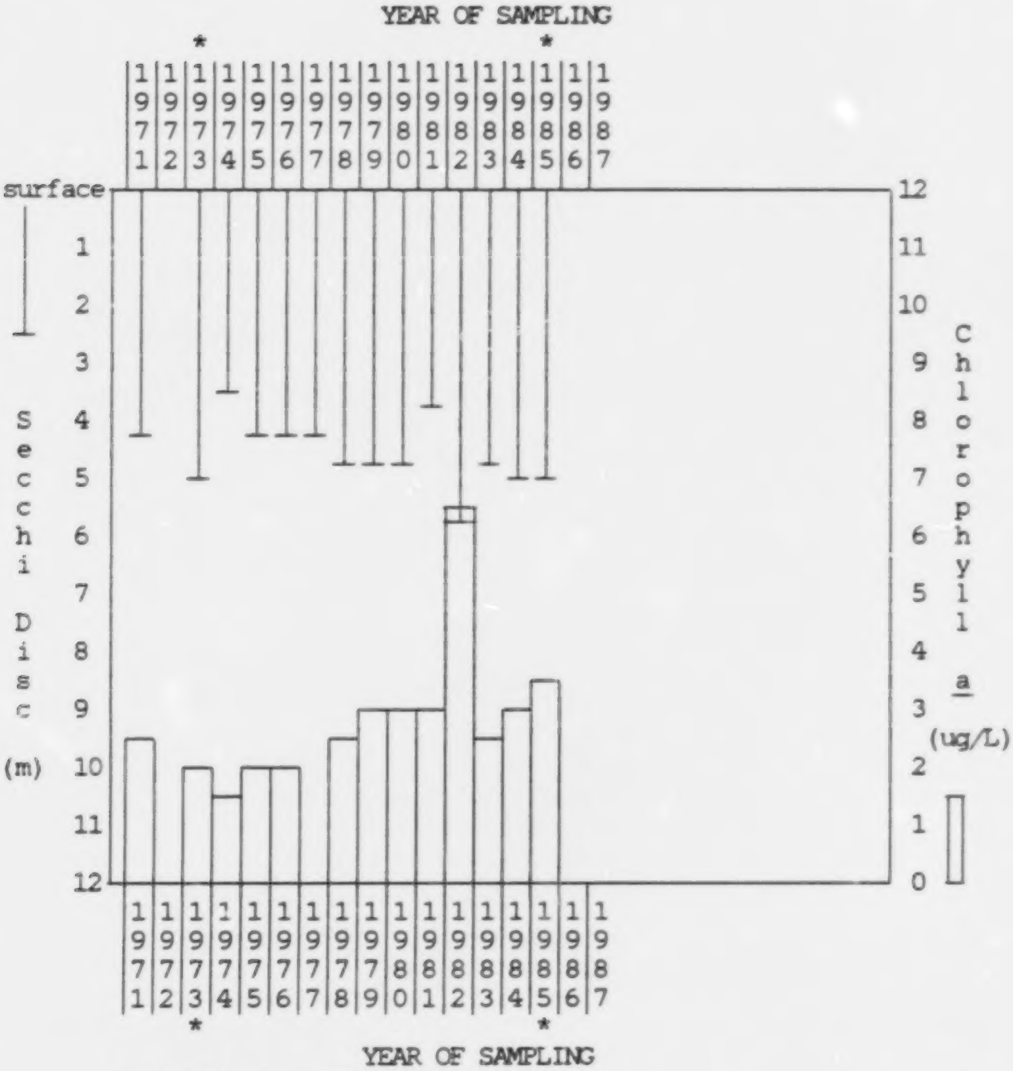


Figure 2 : Summary of results for Secchi disc (m) and chlorophyll a (ug/L) from East Lake from 1971 to 1986. Seasonal mean data (more than 6 sampling dates) unless otherwise specified. A minimum of 4 results were required for graphing.



* based on 4 results

An excellent historical record of water quality has been established for East Lake with 11 years of reliable seasonal average data. These results indicate that there has been no overall change in the degree of water clarity since 1971. The Secchi disc readings have usually fluctuated around 4.5 m with an unusually high reading of 5.7 m observed in 1982.

The densities of suspended algae have fluctuated from year to year with concentrations ranging from 1.5 to 6.6 ug/L from 1971 to 1984. This fluctuation is often observed in moderately enriched lakes. Insufficient sampling was done in 1986 to include the data on the graph.

We hope that sampling continues in 1987 with increased sampling frequency in order to maintain the excellent record for East Lake.

FOUR MILE LAKE

SOMERVILLE TOWNSHIP

COUNTY OF VICTORIA

Table 1: Secchi Disc (m) and chlorophyll a (ug/L) data collected from Four Mile Lake in 1986

Station	Centre		North	
Date	S.D.	Chl.a	S.D.	Chl.a
May 25	8.0	L 0.9	7.5	1.5
June 8			6.0	1.7
Aug 10	4.5	2.3		

L - Less than

Four Mile Lake was sampled on only 2 occasions in 1986, therefore no meaningful results were obtained.
If sampling is done in 1987, increase sampling frequency to 6 occasions if possible.

FIGURE 1: The relationship between Secchi disc and chlorophyll a for Four Mile Lake in 1986 and a number of recreational lakes in Central Region. All data are seasonal averages.

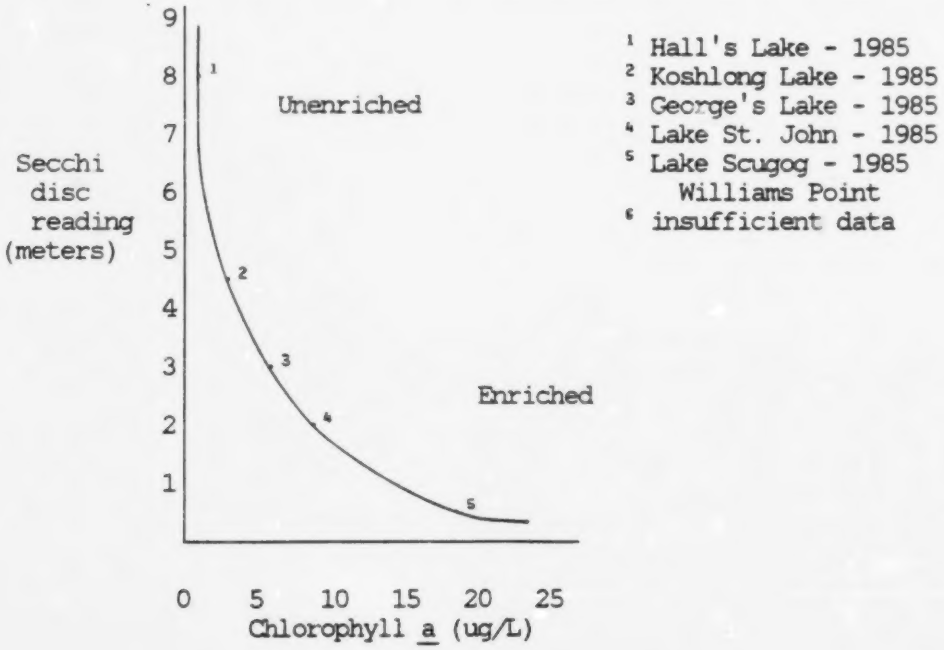
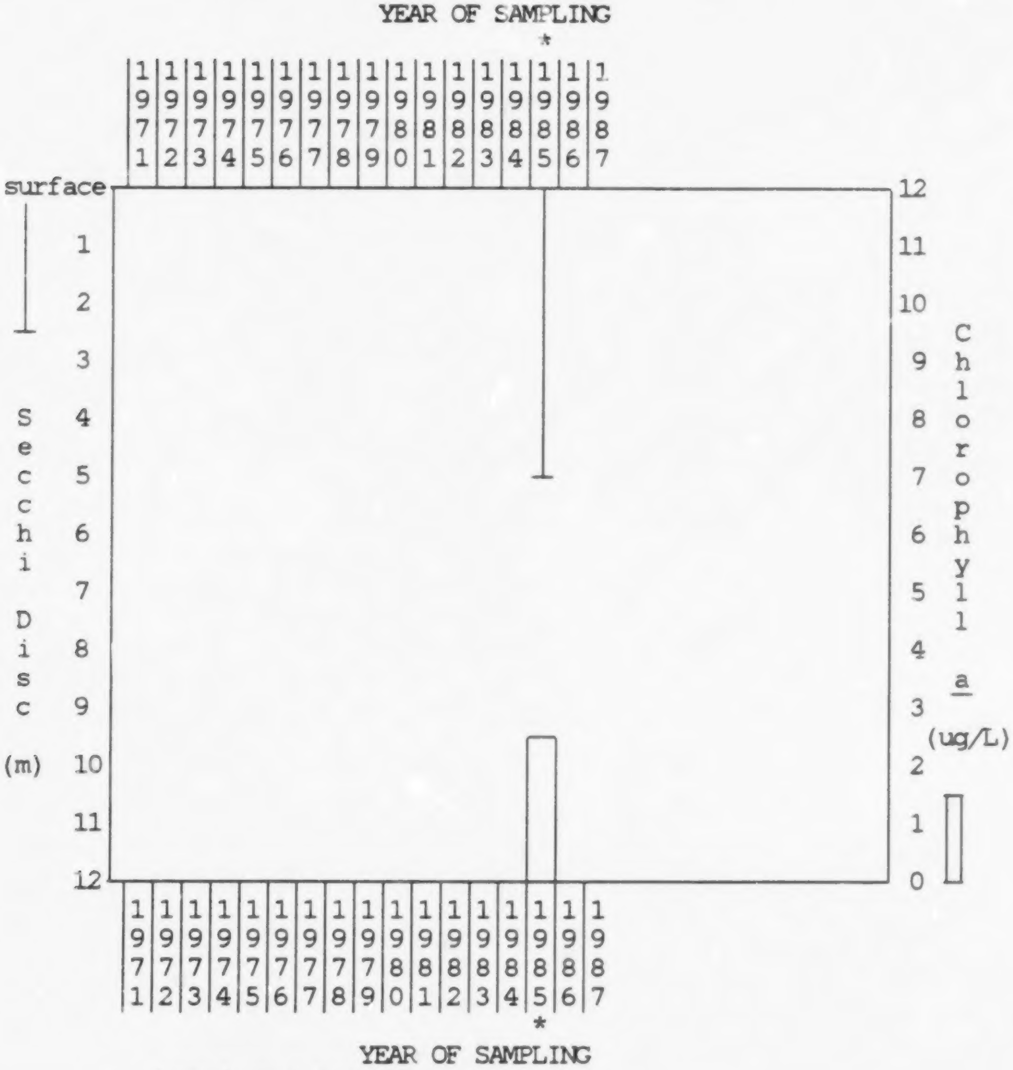


Figure 2 : Summary of results for Secchi disc (m) and chlorophyll a (ug/L) from Four Mile Lake (Centre) in Somerville from 1986. Seasonal mean data (more than 6 sampling dates) only. A minimum of 4 results were required for graphing.



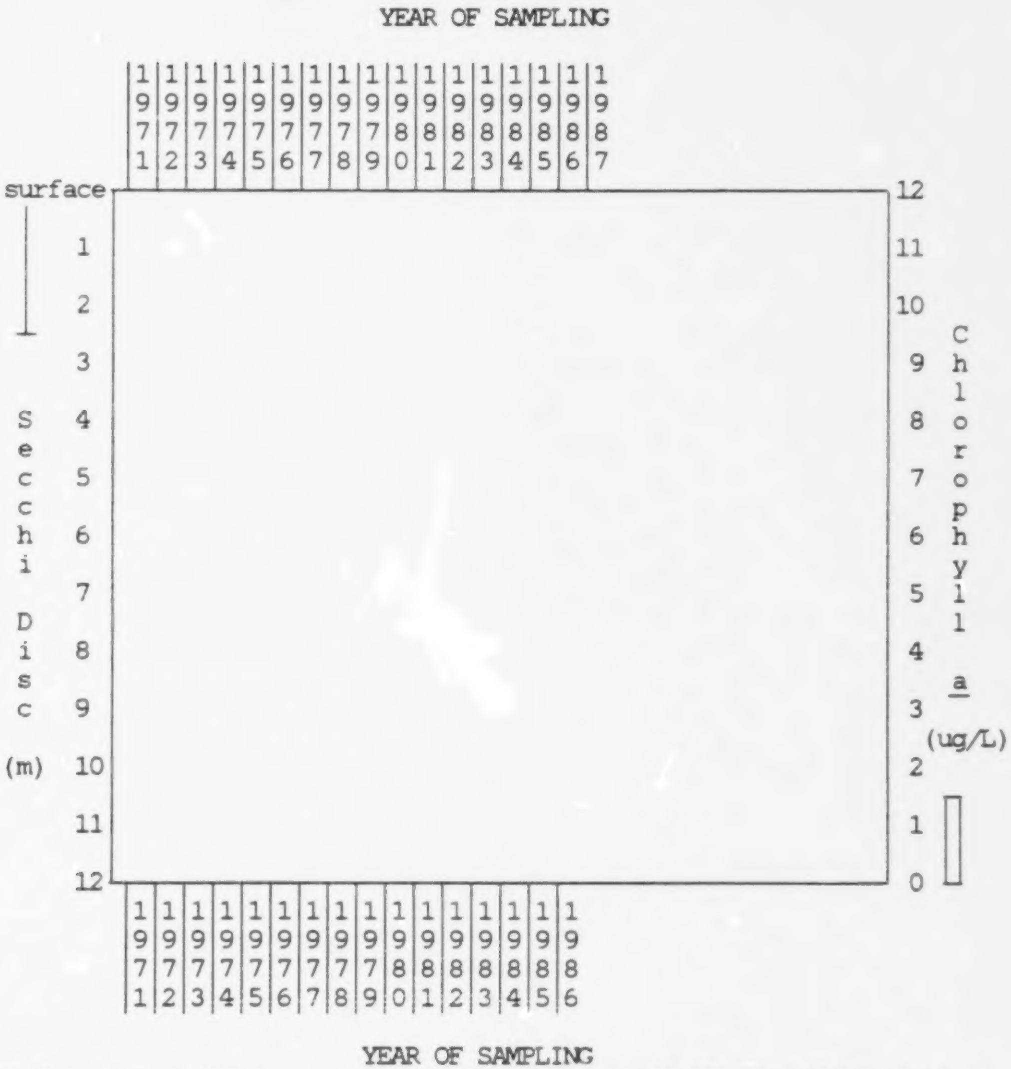
* based on 4 results

There is insufficient information available for Four Mile Lake (Centre station) to make any comment on long-term water quality changes.

Insufficient sampling was done in 1986 to include the data on the graph.

We hope that sampling continues in 1987 with increased sampling frequency to establish a continuous record of water quality.

Figure 2 : Summary of results for Secchi disc (m) and chlorophyll a (ug/L) from Four Mile Lake (North) in Somerville in 1986. Seasonal mean data (more than 6 sampling dates) only. A minimum of 4 results were required for graphing.



We have no reliable seasonal average data available for this station yet. If sampling is done at this location in 1987, we recommend an increase in sampling frequency if meaningful information is to be obtained.

GEORGE'S LAKE

HARCOURT TOWNSHIP

COUNTY OF HALIBURTON

Table 1: Secchi Disc (m) and chlorophyll a (ug/L) data collected from George's Lake in 1986

Station	Main	
Date	S.D.	Chl.a
July 13	2.5	4.3
July 27	2.5	4.7
Aug 4	2.5	2.0
Aug 10	2.5	5.8
Aug 17	3.0	6.5
	2.6	4.7

George's Lake was sampled on 5 occasions in 1986.
Secchi disc readings ranged from 2.5 to 3.0 m and averaged 2.6 m, indicating a moderately low degree of water transparency.
Chlorophyll a concentrations ranged from 2.0 to 6.5 ug/L and averaged 4.7 ug/L, indicating moderately high densities of suspended algae.
Water quality of George's Lake was typical of enriched conditions.

FIGURE 1: The relationship between Secchi disc and chlorophyll a for George's Lake in 1986 and a number of recreational lakes in Central Region. All data are seasonal averages.

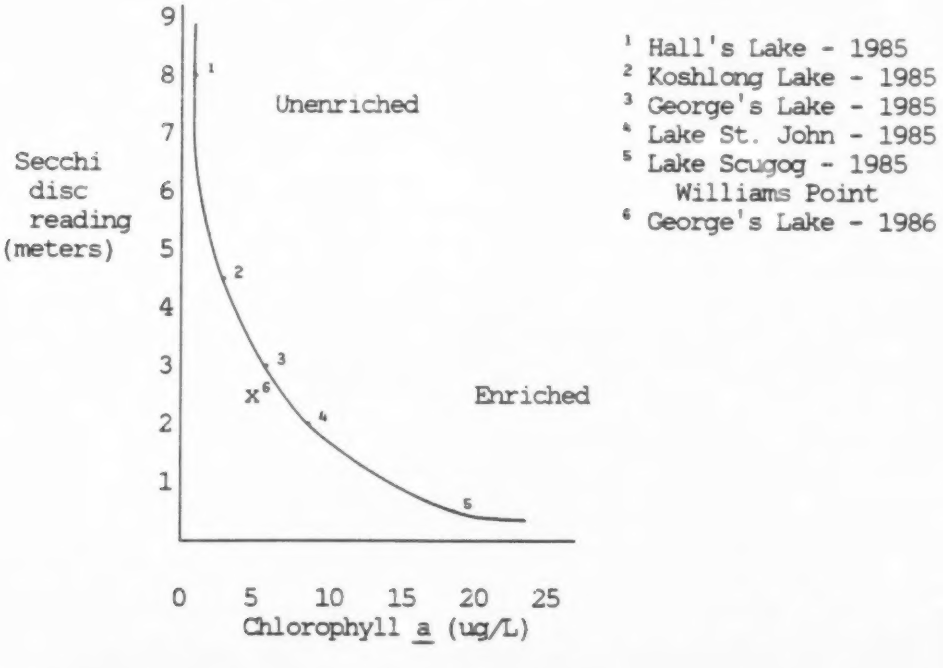
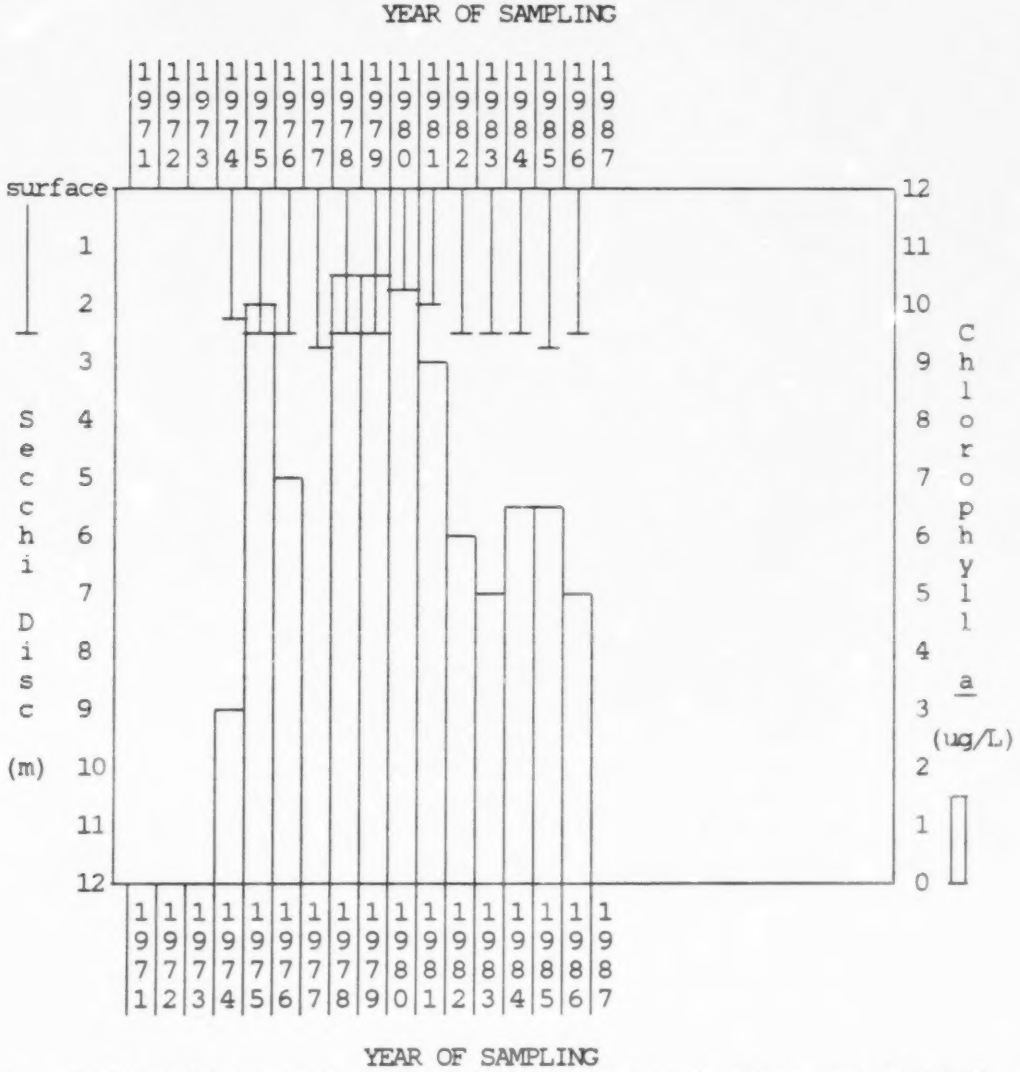


Figure 2 : Summary of results for Secchi disc (m) and chlorophyll a (ug/L) from George's Lake from 1974 to 1986. Seasonal mean data (more than 6 sampling dates) only. A minimum of 4 results were required for graphing.



An excellent historical record of water quality has been established for George's Lake with 12 years of reliable seasonal average data. These results reflect the enriched status of the lake with consistently low Secchi disc readings fluctuating around 2 m. The densities of suspended algae were highly variable as is often the case in enriched lakes with chlorophyll a concentrations ranging from 3.0 ug/L in 1974 to 12.1 ug/L in 1980.
We hope sampling continues on George's Lake in 1987.

GO HOME LAKE

GIBSON WARD
TOWNSHIP OF GEORGIAN BAY

DISTRICT MUNICIPALITY OF MUSKOKA

Table 1: Secchi Disc (m) and chlorophyll a (ug/L) data collected from Go Home Lake in 1986

Station	North		South	
Date	S.D.	Chl.a	S.D.	Chl.a
Aug 18	6.0	1.3	5.0	1.8

Insufficient samples were received to obtain meaningful results. If sampling continues in 1987, we recommend changing the sample delivery method, if possible, to ensure samples are received at the lab.

FIGURE 1: The relationship between Secchi disc and chlorophyll a for Go Home Lake in 1986 and a number of recreational lakes in Central Region. All data are seasonal averages.

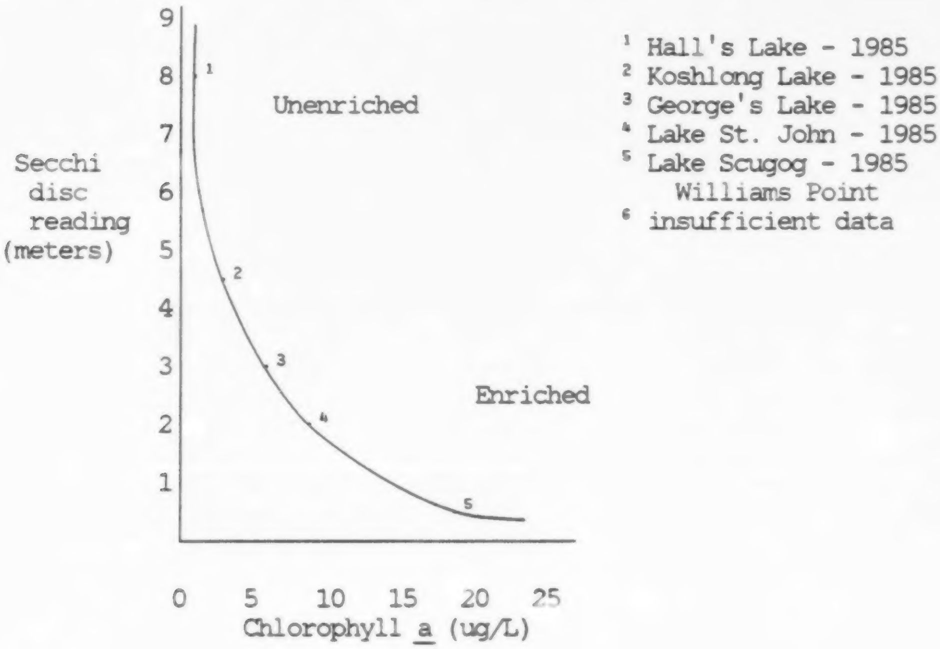
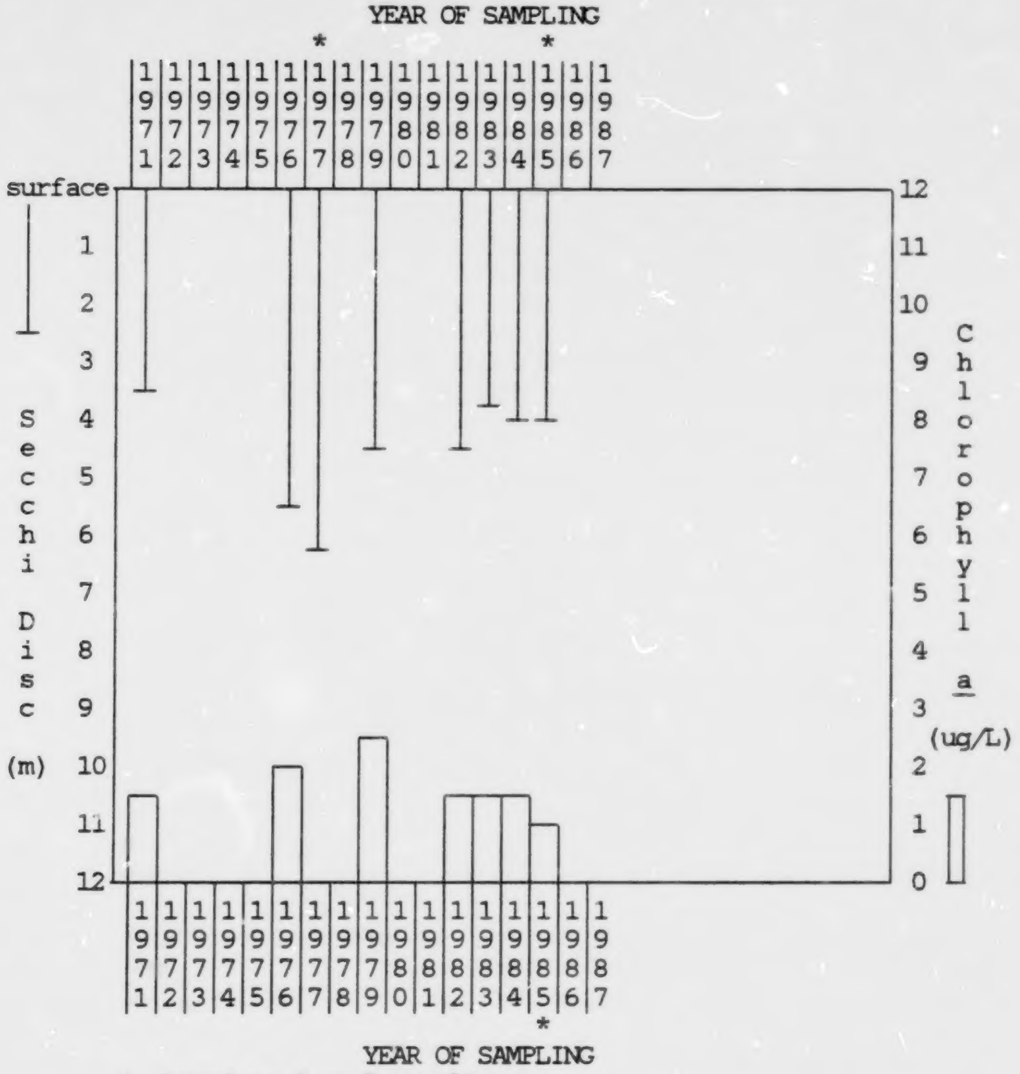


Figure 2 : Summary of results for Secchi disc (m) and chlorophyll a (ug/L) from Go Home Lake (North station) from 1971 to 1986. Seasonal mean data (more than 6 sampling dates) unless otherwise specified. A minimum of 4 results was required for graphing.



* based on 4 or 5 results.

Insufficient sampling was done in 1986 to graph the results.

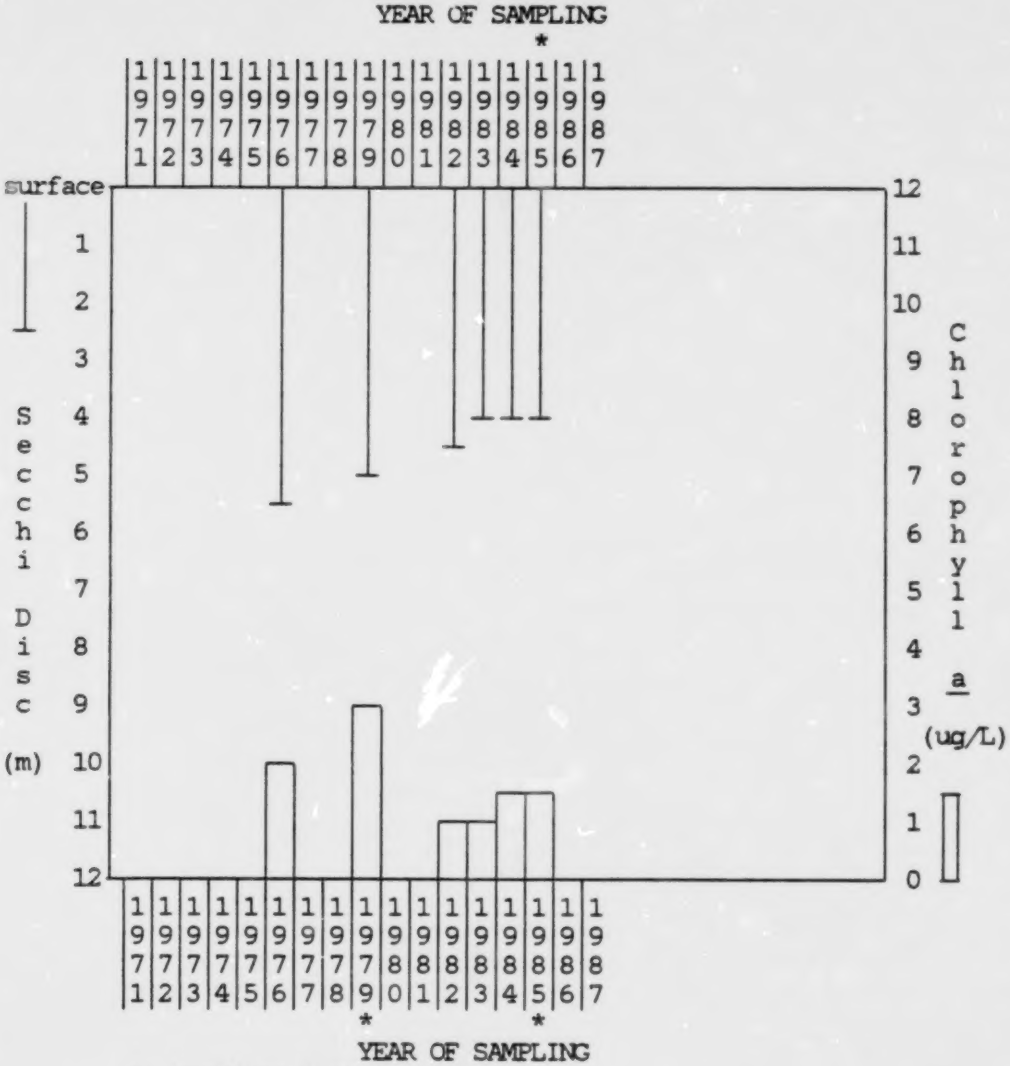
Seven years of reliable seasonal data has been collected for the North station of Go Home Lake.

These results indicate no overall change in water quality, however, the degree of water transparency has been variable with average readings ranging from moderately low to high.

Densities of suspended algae have generally been low.

We hope that sampling continues in 1987 with increased frequency in order to maintain the record of reliable results from this station.

Figure 2 : Summary of results for Secchi disc (m) and chlorophyll a (ug/L) from Go Home Lake (South station) from 1976 to 1986. Seasonal mean data (more than 6 sampling dates) unless otherwise specified. A minimum of 4 results was required for graphing.



* based on 4 or 5 results

Insufficient sampling was done in 1986 to graph the results.

Since 1976, 6 years of data have been collected at the South station of Go Home Lake.

The degree of water clarity has decreased from high in 1976 and 1977 to moderately high from 1979 to 1985.

Densities of suspended algae have been low since 1981 so the reason for the decreased water clarity is not apparent.

We hope that sampling continues in 1987 at this station to monitor water quality changes over the long-term.

GULL LAKE

LUTTERWORTH TOWNSHIP

COUNTY OF HALIBURTON

Table 1: Secchi Disc (m) and chlorophyll a (ug/L) data collected from Gull Lake in 1986

Station	Deep Bay	
Date	S.D.	Chl.a
May 4	5.0	L 0.9
May 12	5.0	L 0.6
May 19	5.0	L 0.9
May 25	5.1	L 0.7
June 22	4.5	L 0.6
July 1	5.0	1.8
July 13	5.0	1.0
July 20	5.0	1.4
July 27	5.2	1.3
Aug 18	5.0	2.9
Aug 24	5.0	1.4
Sept 1	5.0	2.7
	5.0	1.4

An excellent sampling program was conducted on Gull Lake in 1986, with sampling on 12 occasions.
Secchi disc readings ranged from 4.5 to 5.2 m and averaged 5.0 m indicating good water transparency.
Chlorophyll a concentrations ranged from less than 0.6 ug/L to 2.9 ug/L and averaged less than 1.4 ug/L, indicating low densities of suspended algae.
Based on 1986 results, Gull Lake would be considered unenriched.

L - Less than

FIGURE 1: The relationship between Secchi disc and chlorophyll a for Gull Lake in 1986 and a number of recreational lakes in Central Region. All data are seasonal averages.

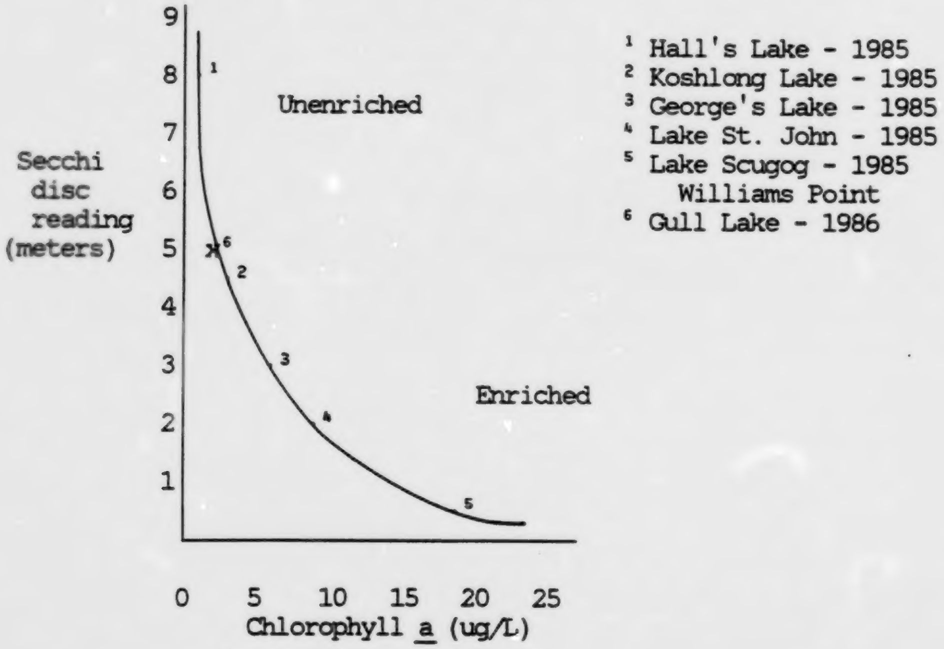
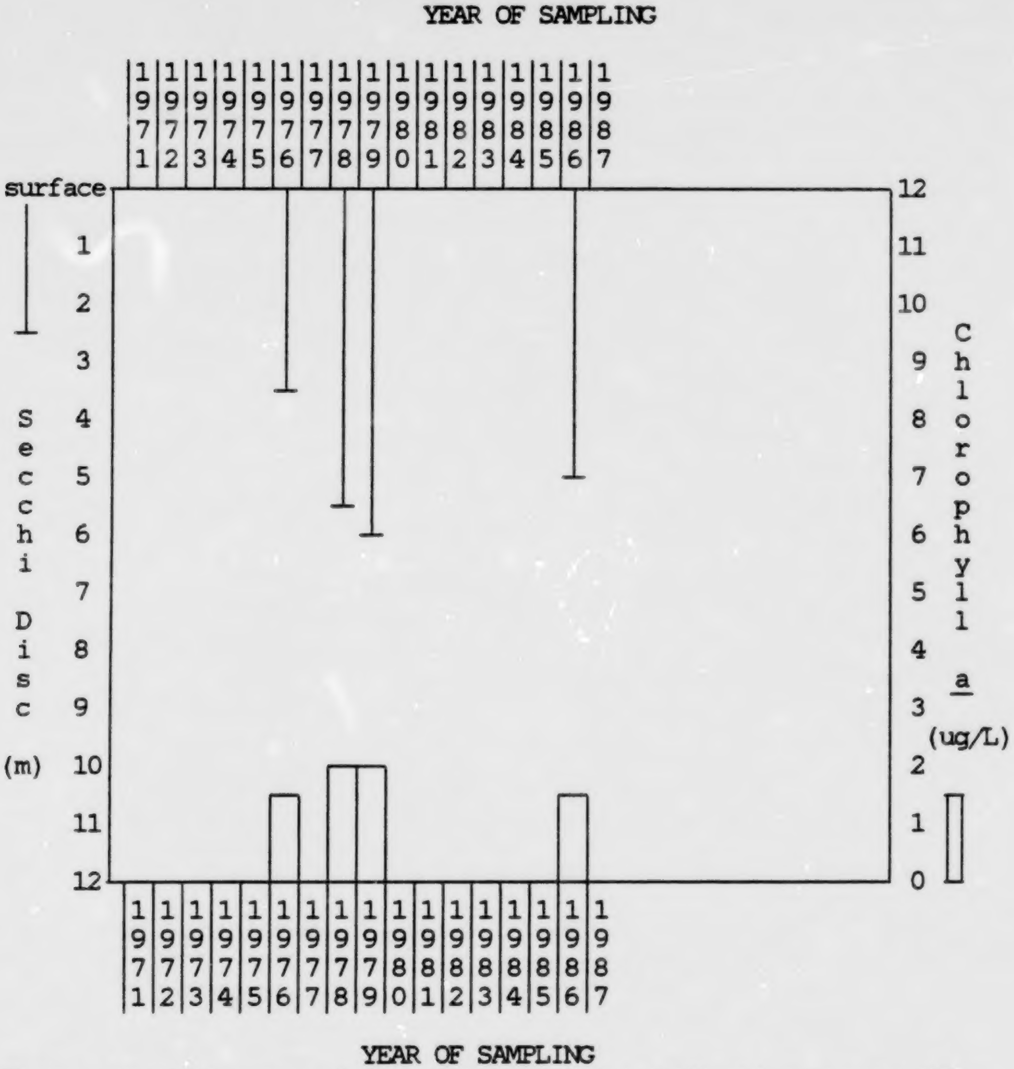


Figure 2 : Summary of results for Secchi disc (m) and chlorophyll a (ug/L) from Gull Lake (Deep Bay station) in Haliburton in 1986. Seasonal mean data (more than 6 sampling dates) unless otherwise specified. A minimum of 4 results was required for graphing.



There are now 4 years of data for Gull Lake, indicating no overall change in water quality since 1976.
Secchi disc readings ranged from moderate in 1976 to high in 1979, while chlorophyll a concentrations remained low.
We hope you continue to sample in 1987, in order to establish a good historical record of water quality for Gull Lake.

GULL LAKE

MUSKOKA WARD
TOWN OF GRAVENHURST

DISTRICT MUNICIPALITY OF MUSKOKA

Table 1: Secchi Disc (m) and chlorophyll a (ug/L) data collected from Gull Lake in 1986

Station	Lower Gull	
Date	S.D.	Chl.a
May 25	5.0	L 0.2
June 15	5.75	L 0.8
July 13	4.0	3.6
July 20	3.0	4.3
July 27	4.2	2.5
Aug 10	3.2	3.0
Aug 17	3.0	2.6
	4.0	2.4

L - Less than

A good sampling program was conduced on Gull Lake in 1986, with sampling on 7 occasions.
Secchi disc readings ranged from 3.0 to 5.75 m and averaged 4.0 m, indicating a moderate degree of water transparency.
Chlorophyll a concentrations ranged from less than 0.2 to 4.3 ug/L and averaged 2.4 ug/L, indicating low to moderate densities of suspended algae.
Based on 1986 results, Gull Lake would be considered borderline between moderately enriched and unenriched.

FIGURE 1: The relationship between Secchi disc and chlorophyll a for Gull Lake in 1986 and a number of recreational lakes in Central Region. All data are seasonal averages.

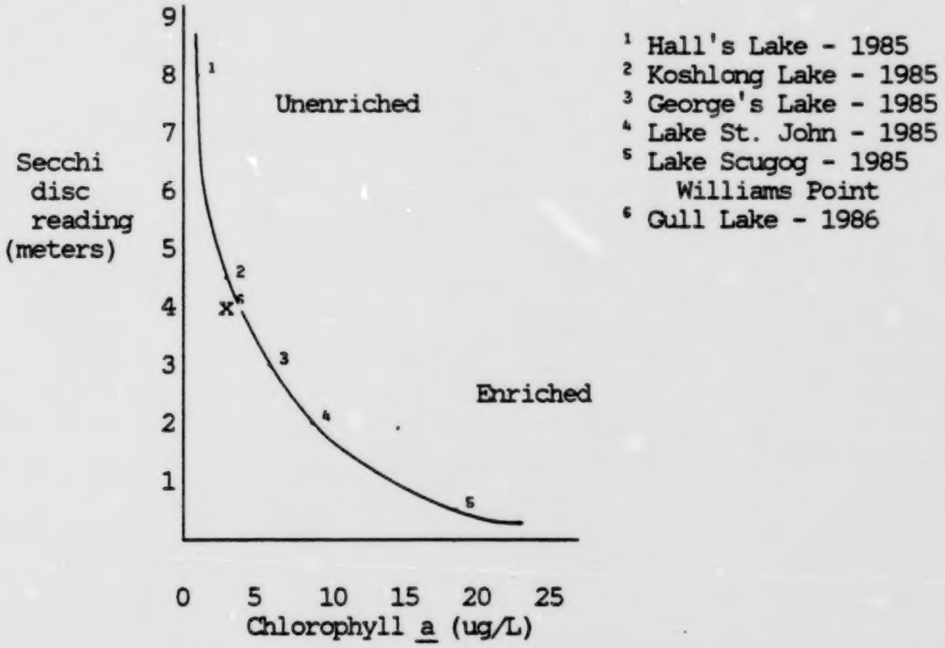
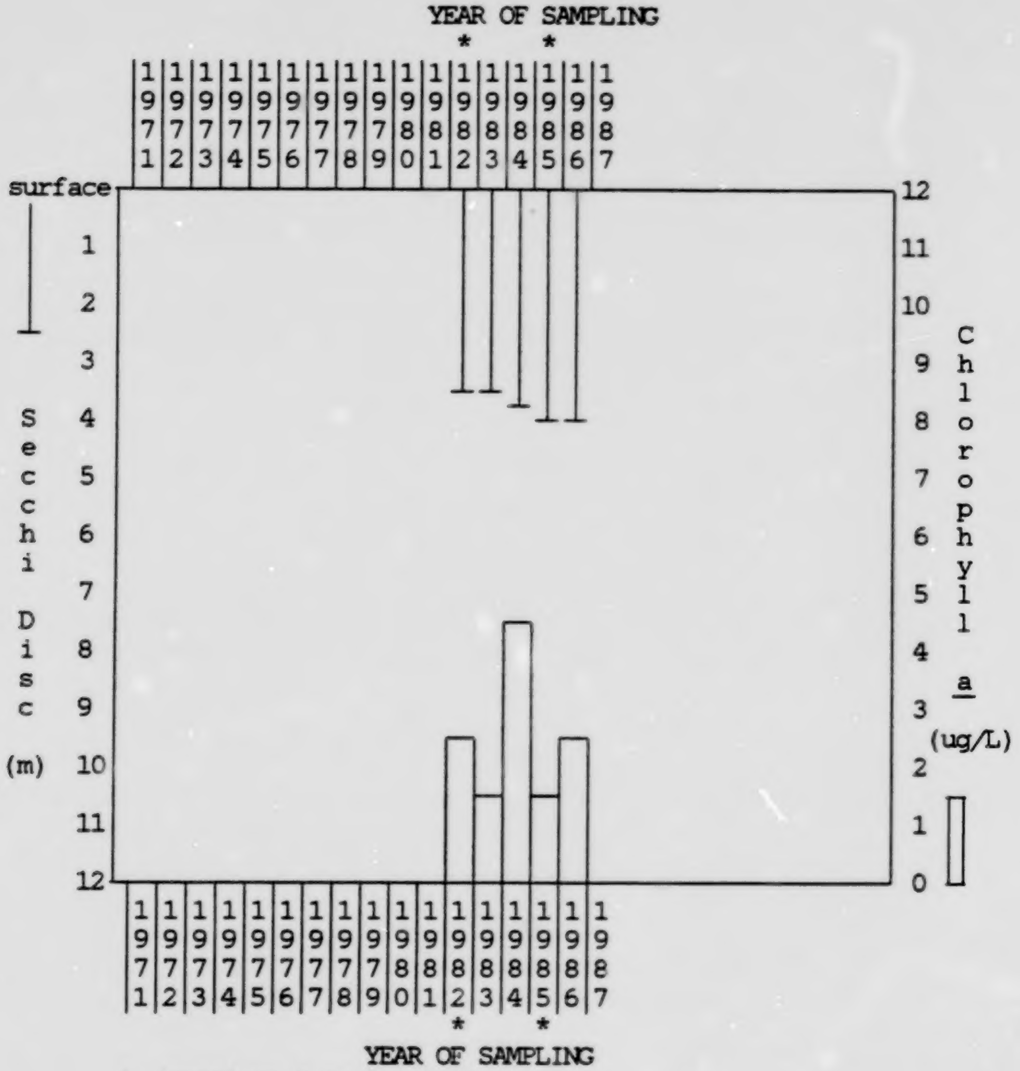


Figure 2 : Summary of results for Secchi disc (m) and chlorophyll a (ug/L) from Gull Lake (Lower station) in Muskoka from 1982 to 1986. Seasonal mean data (more than 6 sampling dates) unless otherwise specified. A minimum of 4 results was required for graphing.



* based on 4 or 5 results

We now have 5 years of data for Gull Lake (Lower Station) in Muskoka. The degree of water clarity has been moderately low but has increased slightly from 1982 to 1986.

Densities of suspended algae have been variable ranging from low to high for the period of record.

No overall change in water quality has been observed in Gull Lake at this station since 1982.

We hope that sampling continues in 1987 in order to maintain a continuous record of water quality for this location.

HALIBURTON LAKE

HARBURN TOWNSHIP

COUNTY OF HALIBURTON

Table 1: Secchi Disc (m) and chlorophyll a (ug/L) data collected from Haliburton Lake in 1986

Station Date	Main- North S.D.	 Chl.a	South Bay S.D.	 Chl.a
June 1	7.0	1.1		
June 8	5.5	2.1	3.0	4.4
June 22	6.5	1.2	3.5	1.5
July 1	5.0	1.4	3.3	2.2
July 6	4.5	1.2	3.5	1.4
July 13	7.0	2.5	3.5	5.5
July 19	7.0	W 0.1	4.0	5.8
Aug 4	6.0	2.2	3.0	5.5
Aug 17	7.0	2.5	3.0	4.3
Aug 24	5.0	2.2	3.0	4.6
	6.1	1.7	3.6	3.9

W - Zero, value is minimum measurable amount.

A good sampling program was conducted on Haliburton Lake in 1986, with sampling on 10 occasions.
At the North station, Secchi disc readings ranged from 4.5 to 7.0 m and averaged 6.1 m, indicating a high degree of water transparency. Chlorophyll a concentrations ranged from 0.1 to 2.5 ug/L and averaged 1.7, indicating low densities of suspended algae. Based on these results, the water quality at the North station would be considered unenriched. In South Bay, Secchi disc readings ranged from 3.0 to 4.0 m and averaged 3.6 m indicating a moderate degree of water clarity. Chlorophyll a concentrations ranged from 1.4 to 5.8 ug/L and averaged 3.9 ug/L indicating moderate densities of suspended algae. Based on these results, South Bay would be considered moderately enriched.

FIGURE 1: The relationship between Secchi disc and chlorophyll a for Haliburton Lake in 1986 and a number of recreational lakes in Central Region. All data are seasonal averages.

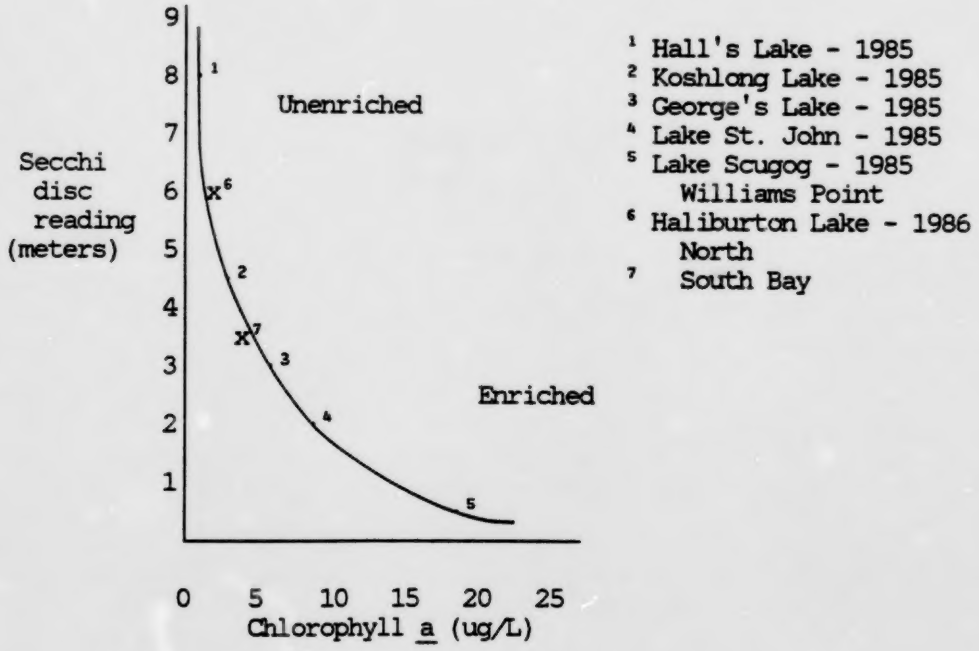
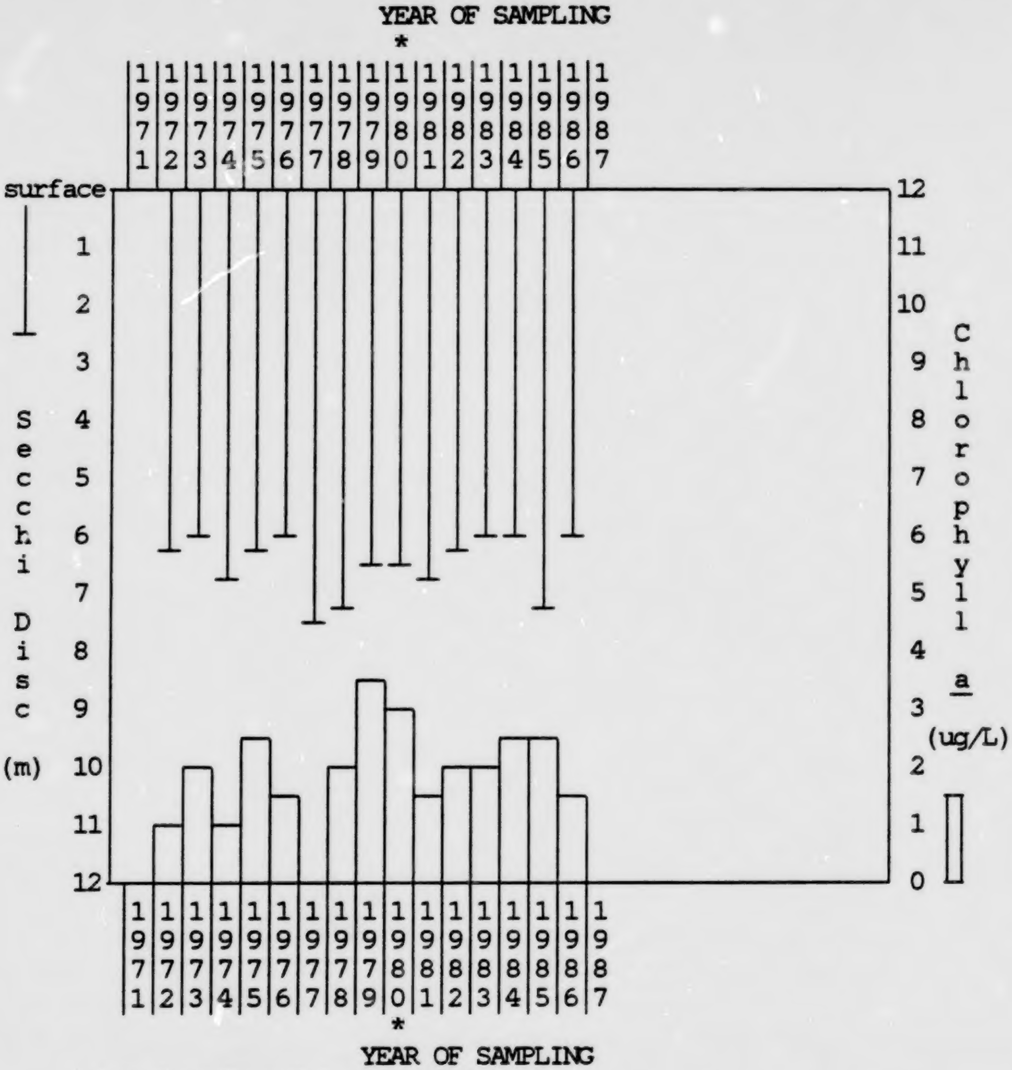


Figure 2 : Summary of results for Secchi disc (m) and chlorophyll a (ug/L) from Haliburton Lake (Main station) from 1972 to 1986. Seasonal mean data (more than 6 sampling dates) unless otherwise specified. A minimum of 4 results was required for graphing.



* based on 4 or 5 results

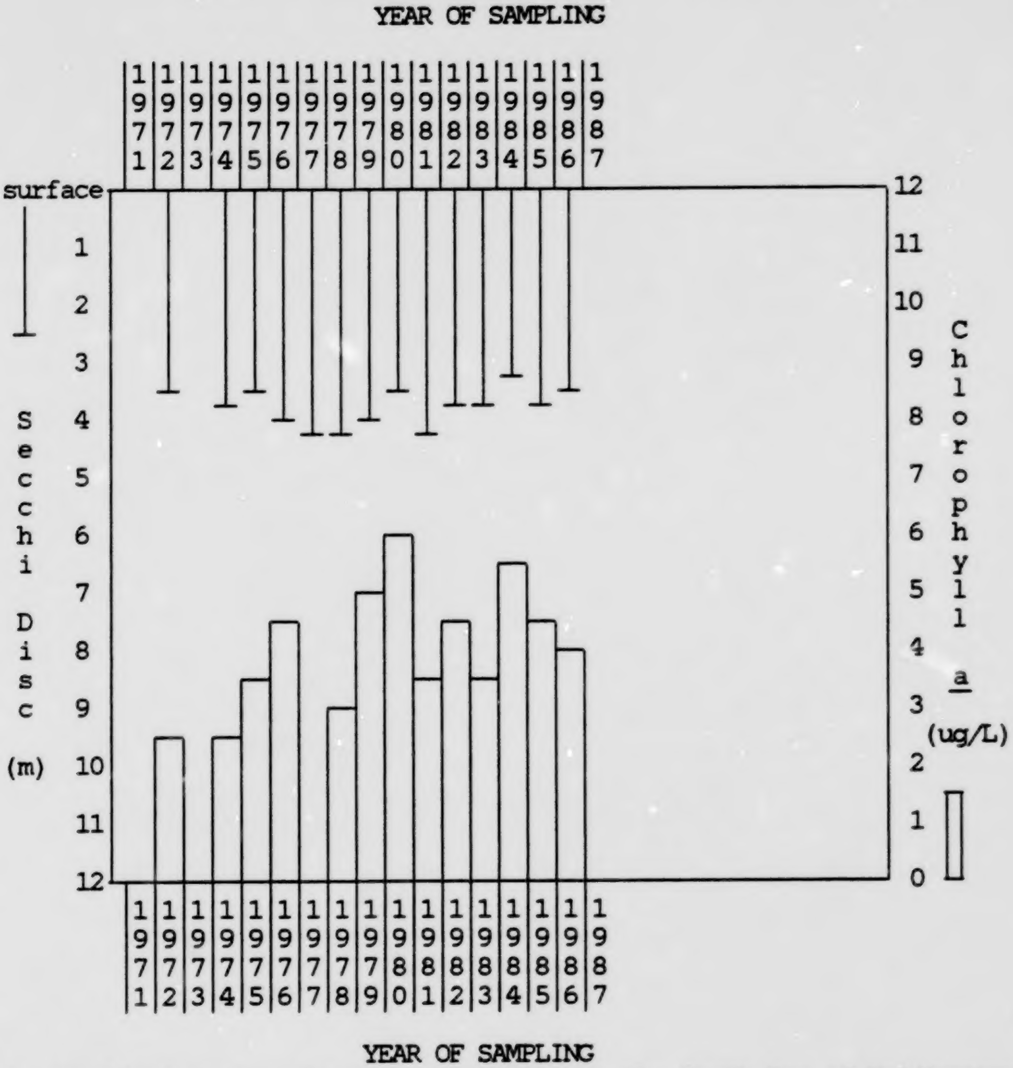
An excellent historical record of water quality information has been established for Haliburton Lake (Main station) with 14 years of data. The degree of water clarity has been consistently high ranging from 6 to 7.5 m with no overall changes for the period of record.

Densities of suspended algae have been more variable with low densities observed for most of the period of record. In 1979 and 1980 the highest densities of suspended algae occurred.

Water quality of the main basin of Haliburton Lake continues to be excellent with no overall change in water quality for the period of record.

We hope that your excellent participation in this program continues in 1987. A detailed water quality survey of Haliburton Lake was done by the Ministry of the Environment in 1986.

Figure 2 : Summary of results for Secchi disc (m) and chlorophyll a (ug/L) from Haliburton Lake (South Bay) from 1972 to 1986. Seasonal mean data (more than 6 sampling dates) only. A minimum of 4 results were required for graphing.



An excellent program has been conducted on the South Bay of Haliburton with 14 years of reliable seasonal average data.

The degree of water clarity has been moderately low for the period of record with no overall trends to indicate a change in water quality. Densities of suspended algae have been variable, ranging from moderately low in 1972 and 1974 to high densities in 1979, 1980, 1984 and 1985. Chlorophyll a concentrations appear to have increased over the period of record, indicating increasing enrichment.

We hope your participation in this program continues in 1987. A detailed water quality survey of South Bay was done by the Ministry of the Environment in 1986.

HALLS LAKE
STANHOPE TOWNSHIP
COUNTY OF HALIBURTON

Table 1: Secchi Disc (m) and chlorophyll a (ug/L) data collected from Halls Lake in 1986

Station	North End	
Date	S.D.	Chl.a
June 15	10.5	L 0.8
July 6	8.5	1.5
July 27	7.5	1.5
Aug 10	8.0	1.8
Aug 17	10.5	2.2
Aug 24	8.5	1.4
Sept 1	8.0	1.1
	8.8	L 1.5

L - Less than

Another good sampling program was done on Hall's Lake in 1986 with sampling on 7 occasions between June 15 and Sept 1. Secchi disc readings ranged from 7.5 to 10.5 m and averaged 8.8 m, indicating a very high degree of water clarity. Chlorophyll a concentrations ranged from less than 0.8 to 2.2 ug/L and averaged less than 1.5 ug/L indicating low densities of suspended algae. Based on 1986 results, Hall's Lake would be considered unenriched with excellent water quality.

FIGURE 1: The relationship between Secchi disc and chlorophyll a for Halls Lake in 1986 and a number of recreational lakes in Central Region. All data are seasonal averages.

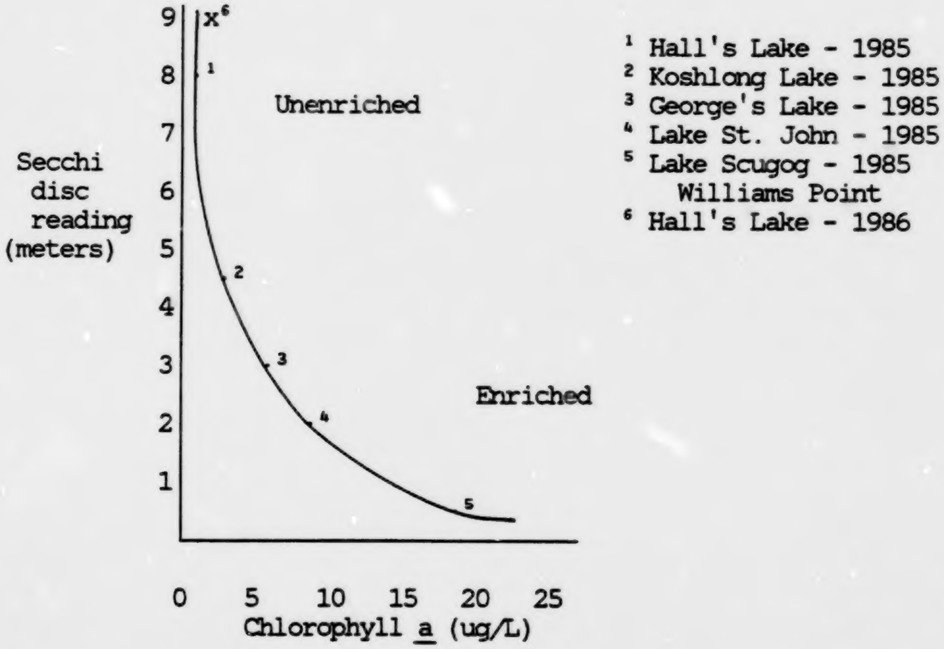
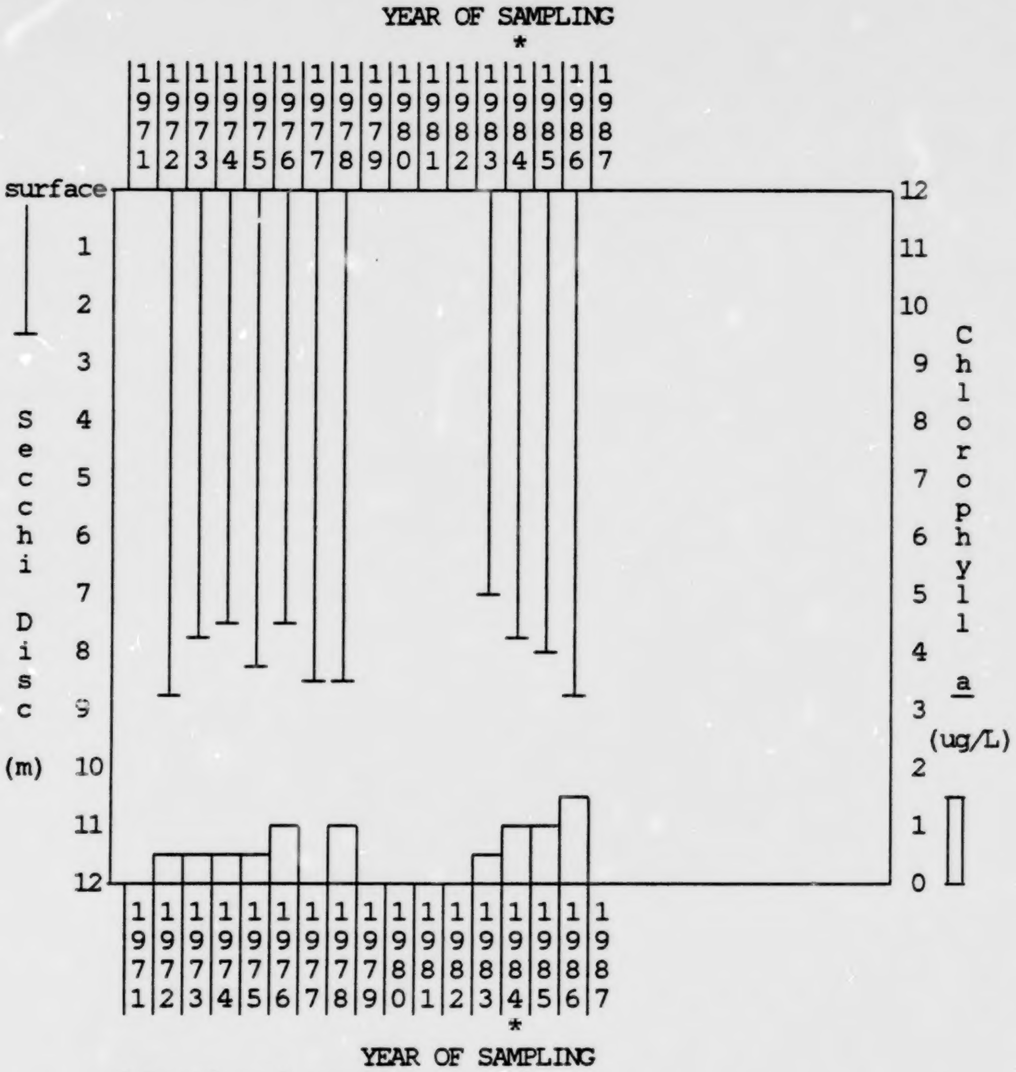


Figure 2 : Summary of results for Secchi disc (m) and chlorophyll a (ug/L) from Halls Lake from 1972 to 1986. Seasonal mean data (more than 6 sampling dates) unless otherwise specified. A minimum of 4 results was required for graphing.



* based on 4 results

A good historical record of water quality has been established for Halls Lake with 11 years of data.

The degree of water clarity has been consistently high since 1972 with Secchi disc readings ranging from 7 to 9 m.

Densities of suspended algae have been consistently low for the period of record.

Water quality of Halls Lake continues to be excellent.

We hope your excellent participation in Self Help continues in 1987.

HARP LAKE

CHAFFEY WARD
TOWN OF HUNTSVILLE

DISTRICT MUNICIPALITY OF MUSKOKA

Table 1: Secchi Disc (m) and chlorophyll a (ug/L) data collected from Harp Lake in 1986

Station	Centre	
Date	S.D.	Chl.a
July 1	3.6	2.9
July 20	4.0	3.8
July 27	4.1	7.6
Aug 4	3.7	UR
Aug 16	3.7	9.6
Aug 22	3.5	9.4
	3.8	6.7

UR - Unreliable result

Another good sampling program was done on Harp Lake in 1986, with sampling on 6 occasions. Secchi disc readings ranged from 3.5 to 4.1 m and averaged 3.8 m, indicating a moderate degree of water transparency. Chlorophyll a concentrations ranged from 2.9 to 9.6 ug/L and averaged 6.7 ug/L, indicating moderate to high densities of suspended algae. Based on the 1986 results, Harp Lake would be considered borderline between enriched and moderately enriched.

FIGURE 1: The relationship between Secchi disc and chlorophyll a for Harp Lake in 1986 and a number of recreational lakes in Central Region. All data are seasonal averages.

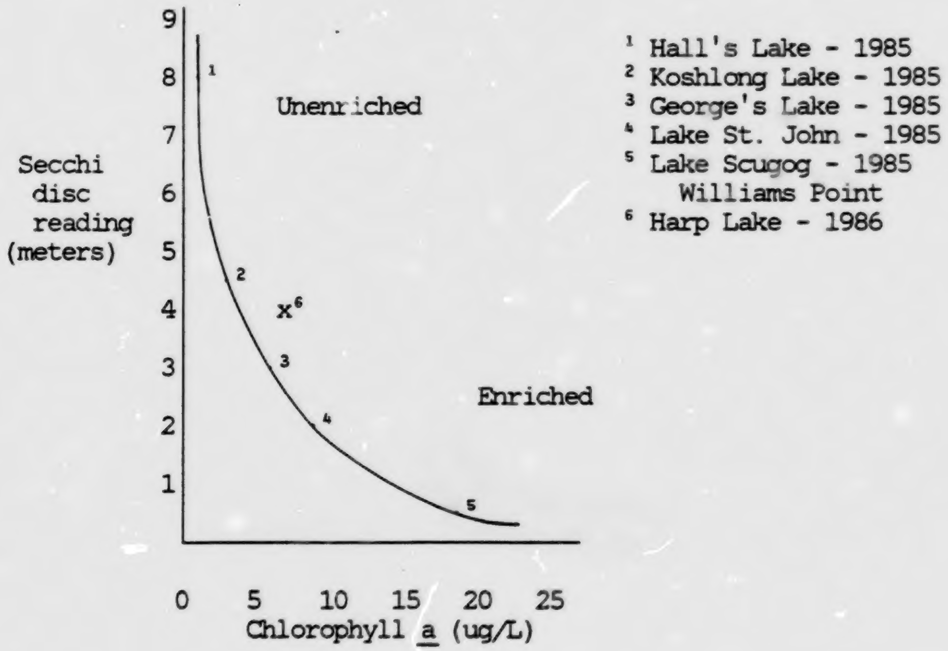
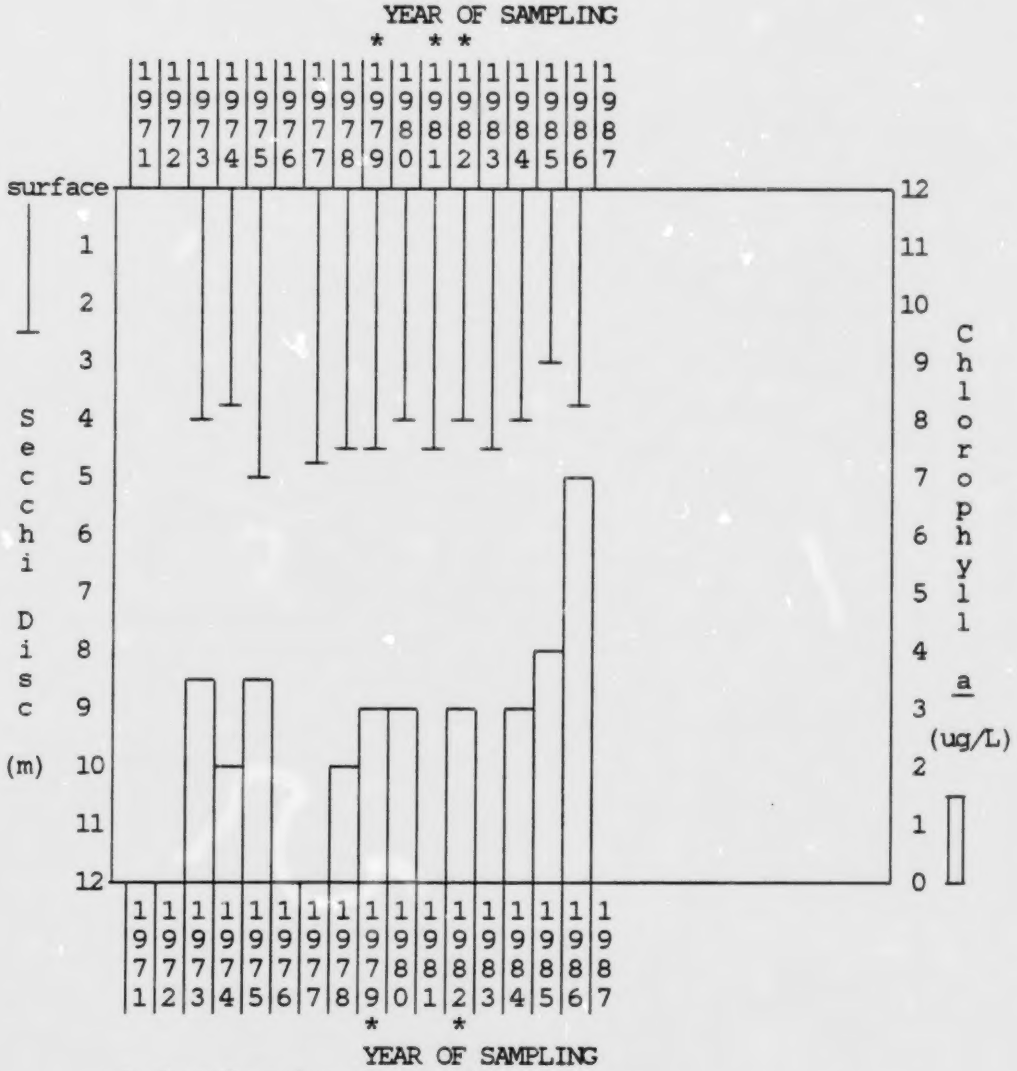


Figure 2 : Summary of results for Secchi disc (m) and chlorophyll a (ug/L) from Harp Lake from 1973 to 1986. Seasonal mean data (more than 6 sampling dates) unless otherwise specified. A minimum of 4 results was required for graphing.



* based on 4 or 5 results

A good sampling program has been done on Harp Lake with 13 years of data collected to date.

The degree of water clarity has been moderately high for most of the period of record with Secchi disc readings in the range of 3 to 5 m.

Densities of suspended algae for most of the period of record have been moderate, except in 1986, when the densities were high.

There has been no overall change in the water quality of Harp Lake since 1973. We hope that you continue in the Self Help Program in 1987.

HEAD LAKE

LAXTON & DIGBY TOWNSHIPS

COUNTY OF VICTORIA

Table 1: Secchi Disc (m) and chlorophyll a (ug/L) data collected from Head Lake in 1986

Station	Main	
Date	S.D.	Chl.a
May 19	3.0	2.4
May 25	3.0	2.6
June 1	2.75	2.4
June 8	1.75	2.8
June 13	2.75	HB
June 22	2.75	2.4
July 6	3.0	EF
July 13	2.75	5.7
July 20	3.0	4.6
Aug 4	2.5	7.4
Aug 10	2.5	5.9
Sept 1	3.0	4.7
	2.7	4.1

An excellent sampling program was done on Head Lake in 1986 with sampling on 12 occasions from May 19 to Sept.1. Secchi disc readings ranged from 1.75 to 3.0 m and averaged 2.7 m, indicating moderately low water clarity. Chlorophyll a concentrations ranged from 2.4 to 7.4 ug/L and averaged 4.1 ug/L, with the higher densities occuring in late July and August. Based on the 1986 results, Head Lake would be considered borderline between enriched and moderately enriched.

HB No Data: High background absorbance in extract.
EF - Laboratory equipment failure.

FIGURE 1: The relationship between Secchi disc and chlorophyll a for Head Lake in 1986 and a number of recreational lakes in Central Region. All data are seasonal averages.

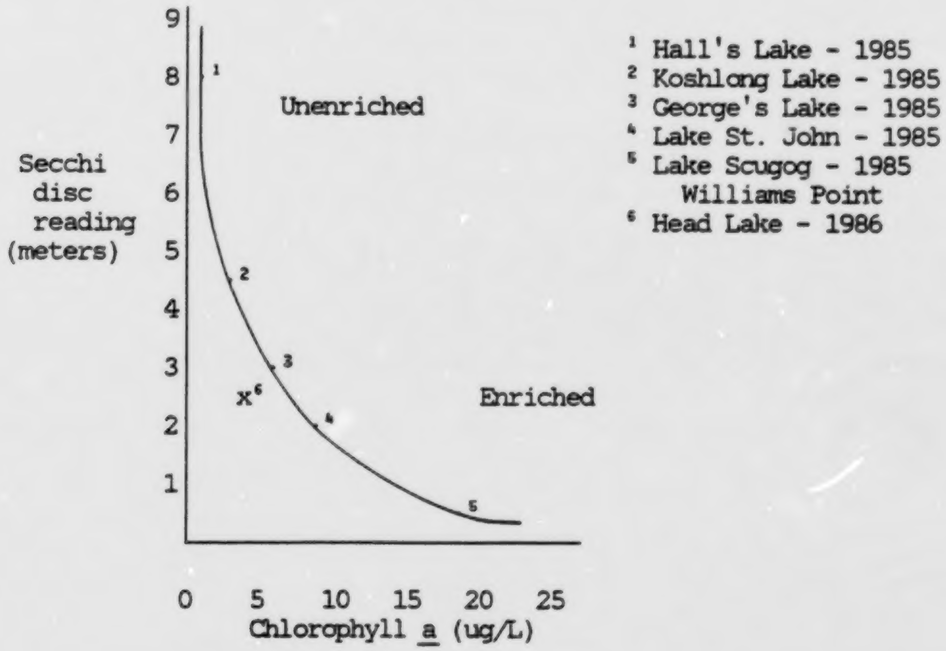
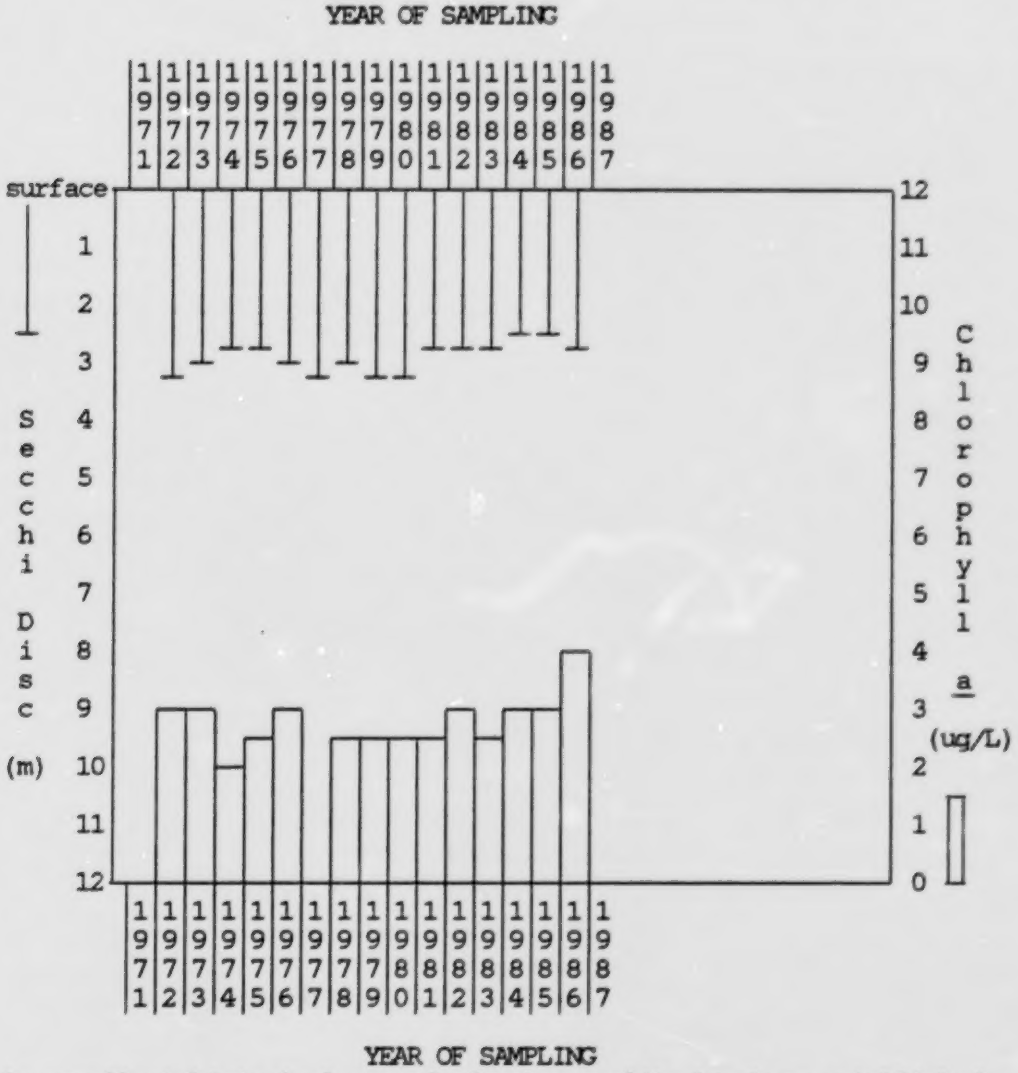


Figure 2 : Summary of results for Secchi disc (m) and chlorophyll a (ug/L) from Head Lake in Victoria from 1972 to 1986. Seasonal mean data (more than 6 sampling dates) only. A minimum of 4 results are required for graphing.



An excellent historical record of water quality has been established for Head Lake in Victoria County with 15 years of reliable seasonal average data.

The Secchi disc readings have consistently ranged between 2.5 and 3.5 m indicating a low degree of water clarity.

Densities of suspended algae have been moderately low for the period of record. Chlorophyll a concentrations were highest in 1986, averaging 4.1 ug/L. There has been no overall change in the water quality of Head Lake since 1972.

We hope that your excellent participation in this program continues in 1987.

HORSESHOE (ELSIE) LAKE

MINDEN TOWNSHIP

COUNTY OF HALIBURTON

Table 1: Secchi Disc (m) and chlorophyll a (ug/L) data collected from Horseshoe Lake in 1986

Station	North Side	
Date	S.D.	Chl.a
June 15	5.5	1.1
July 1	6.0	EF
July 13	5.5	1.7
July 27	4.8	3.3
Aug 10	4.6	2.3
Sept 1	5.3	2.3
	5.3	2.1

EF - Laboratory equipment failure.

Horseshoe Lake was sampled on 6 occasions in 1986. Secchi disc readings ranged from 4.6 to 6.0 m and averaged 5.3 m, indicating a high degree of water clarity. Chlorophyll a concentrations ranged from 1.1 to 3.3 ug/L and averaged 2.1 ug/L, indicating moderately low densities of suspended algae present. Based on these results, Horseshoe Lake would be considered borderline between moderately enriched and unenriched with good water quality.

FIGURE 1: The relationship between Secchi disc and chlorophyll a for Horseshoe Lake in 1986 and a number of recreational lakes in Central Region. All data are seasonal averages.

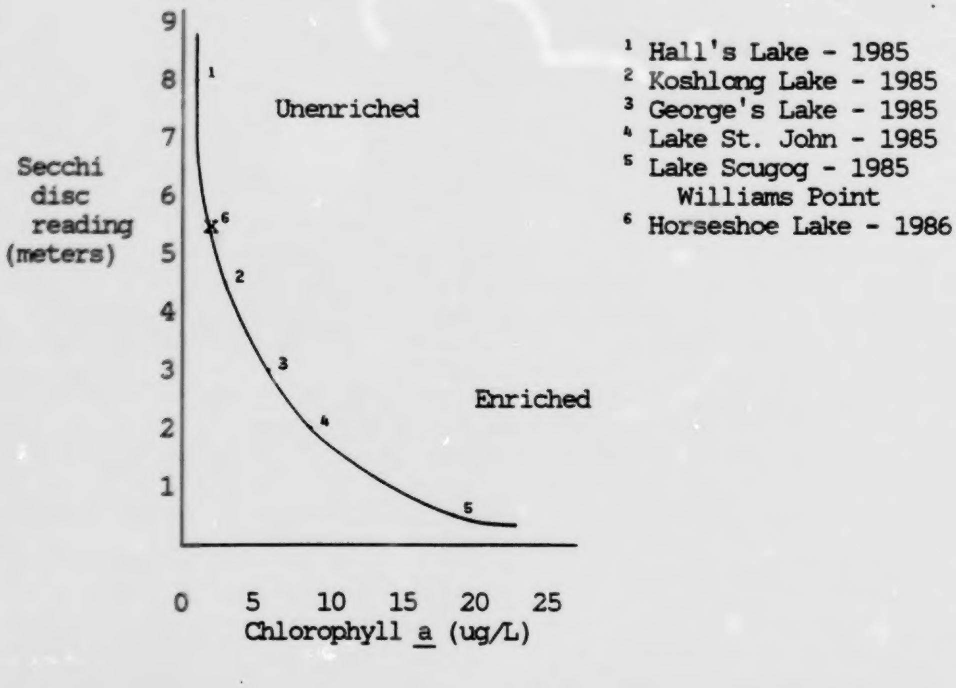
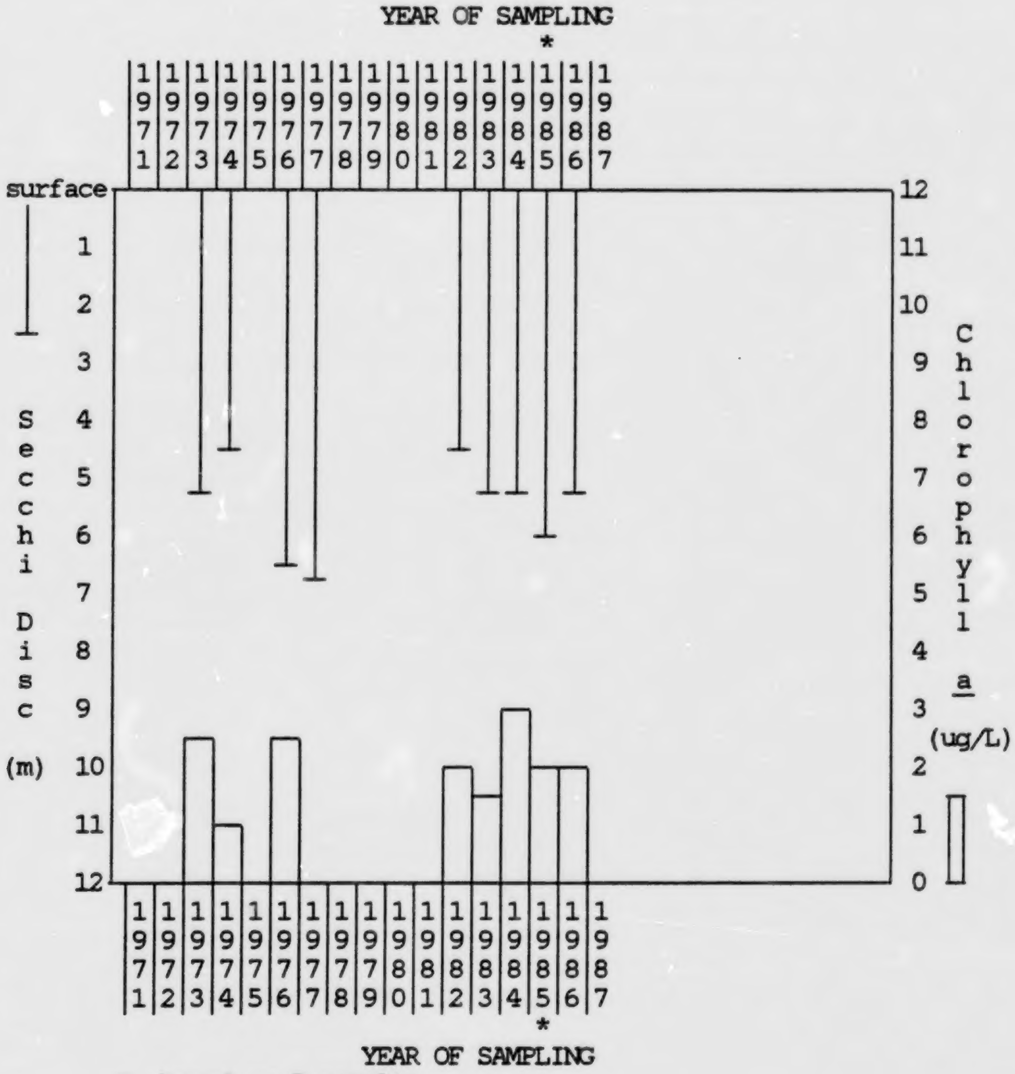


Figure 2 : Summary of results for Secchi disc (m) and chlorophyll a (ug/L) from Horseshoe Lake from 1973 to 1986. Seasonal mean data (more than 6 sampling dates) unless otherwise specified. A minimum of 4 results was required for graphing.



* based on 5 results

We now have 9 years of data for Horseshoe Lake.

The degree of water clarity has been high for most of the period of record but in 1974 and 1982 it was moderately high.

Densities of suspended algae in this lake have been low for most of the period of record with moderately low densities observed in 1973, 1974 and 1984.

There has been no overall change in water quality in Horseshoe Lake since 1973. Water quality continues to be very good.

We hope that you continue to participate in the Self Help Program in 1987.

JACK LAKE

BURLEIGH & METHUEN TOWNSHIPS

PETERBOROUGH COUNTY

Table 1: Secchi Disc (m) and chlorophyll a (ug/L) data collected from Jack Lake in 1986

Station	Brooke's Bay		Sharpe's Bay	
Date	S.D.	Chl.a	S.D.	Chl.a
June 16	2.5	5.7	4.75	2.0
June 23	2.75	4.1		
July 20	3.5	2.8	4.0	2.2
Sept 14	4.0	3.7	4.5	3.4
Oct 13	3.5	2.7	5.0	3.2
	3.25	3.8	3.6	2.7

In 1986, Jack Lake was sampled on 5 occasions at Brooke's Bay and on 4 occasions at Sharpe's Bay. Secchi disc readings averaged 3.25 m at Brooke's Bay and 3.6 m at Sharpe's Bay, indicating a moderate degree of water clarity. Chlorophyll a concentrations averaged 3.8 ug/L at Brooke's Bay and 2.7 ug/L at Sharpe's Bay, indicating moderate densities of suspended algae. Based on these results, Jack Lake would be considered moderately enriched. If sampling continues in 1987, we recommend increasing the sampling frequency to at least 6 occasions, if possible.

FIGURE 1: The relationship between Secchi disc and chlorophyll a for Jack Lake in 1986 and a number of recreational lakes in Central Region. All data are seasonal averages.

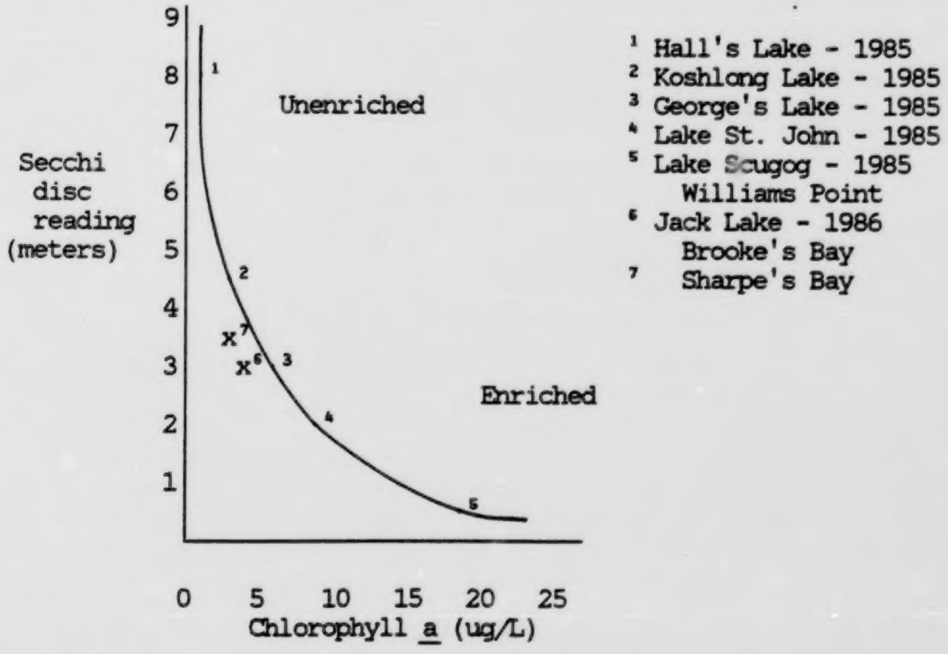
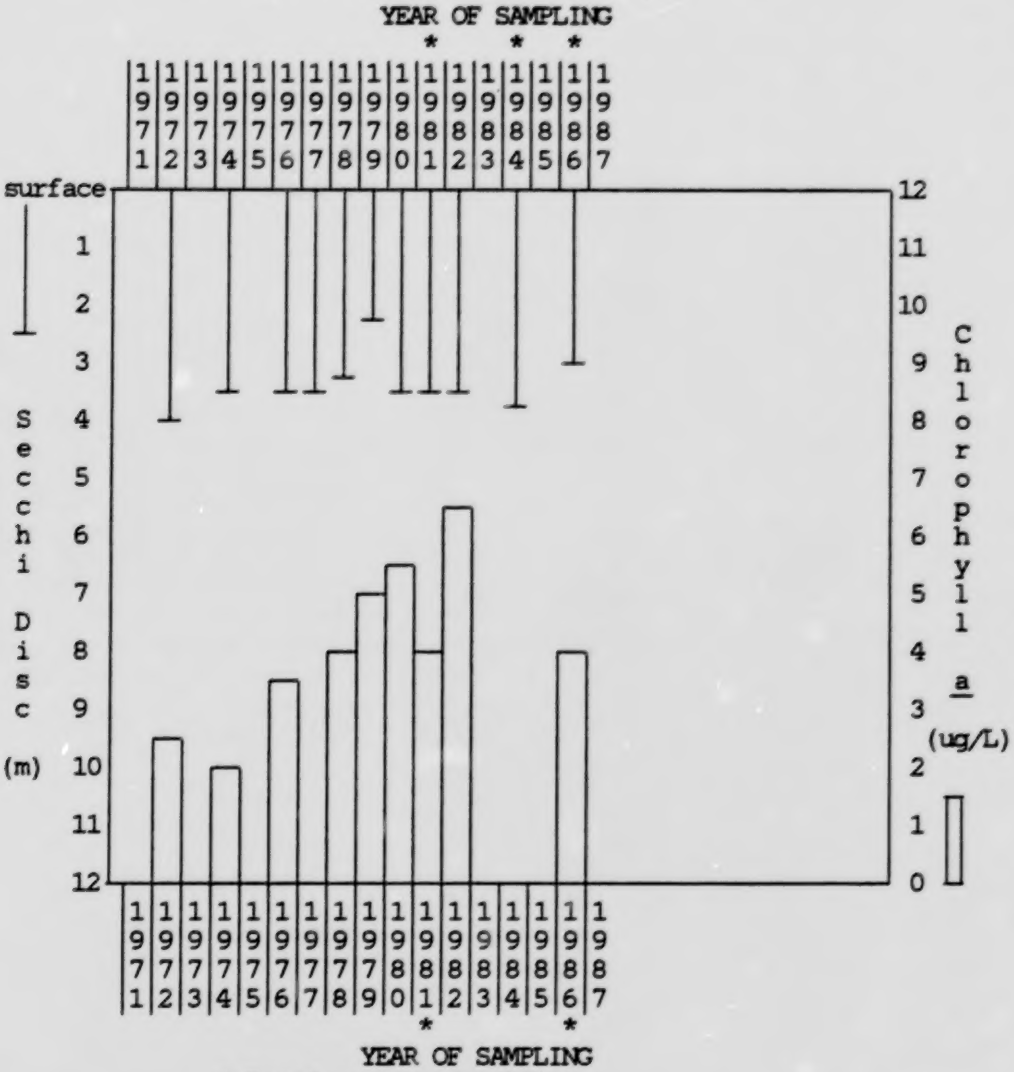


Figure 2 : Summary of results for Secchi disc (m) and chlorophyll a (ug/L) from Jack Lake (Brooke's Bay) from 1972 to 1986. Seasonal mean data (more than 6 sampling dates) unless otherwise specified. A minimum of 4 results was required for graphing.



* Based on 4 or 5 samples.

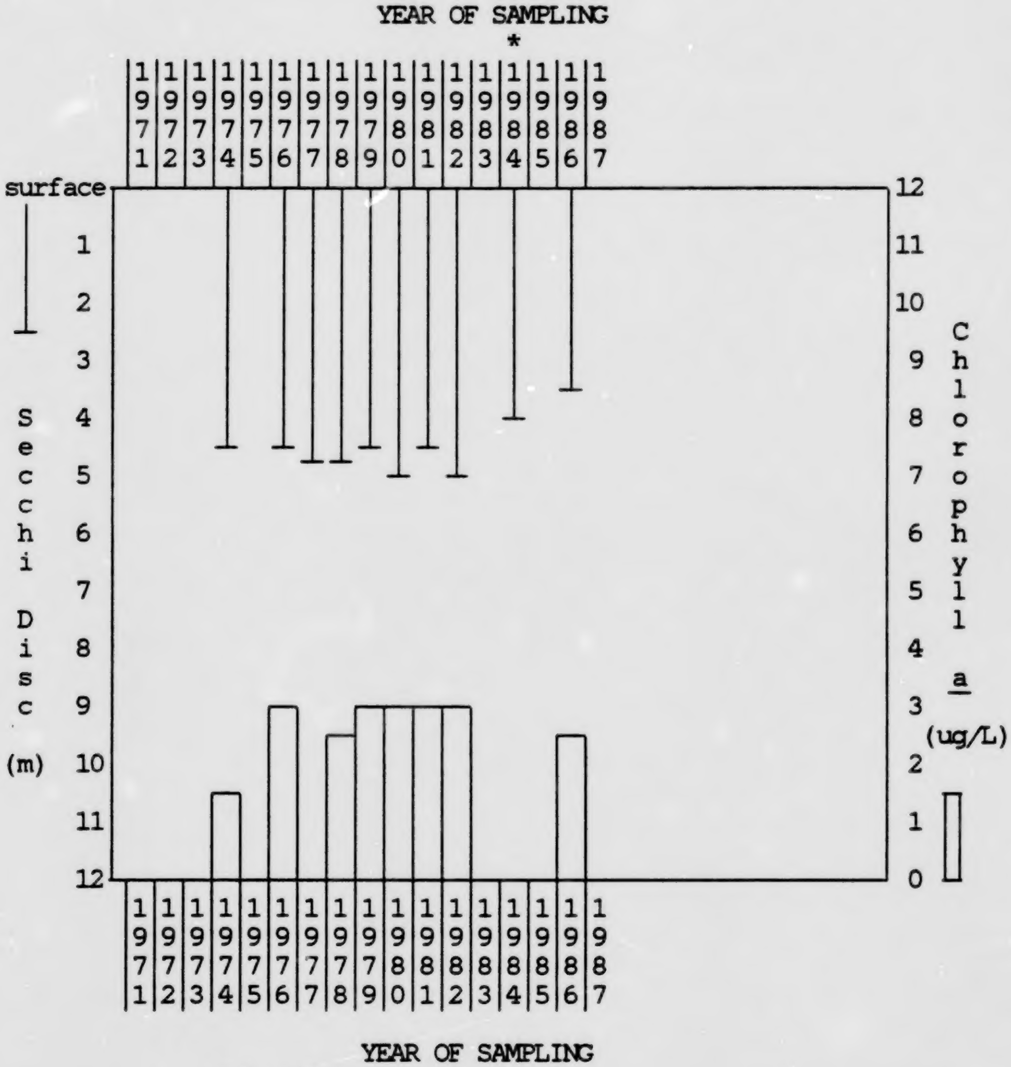
A good historical record of water quality has been established for Brooke's Bay of Jack Lake with 11 years of Secchi disc data and 9 years of chlorophyll data.

The degree of water clarity has generally been moderately low for the period of record and low in 1979.

The densities of suspended algae have ranged widely from moderately low densities in 1972 and 1974 to high densities in 1982.

There appears to be a trend toward increasing algal densities in Brook's Bay. However, more seasonal average chlorophyll a data is required before this could be confirmed. We hope that sampling continues in 1987, and that sampling frequency increases for more reliable long-term water quality results.

Figure 2 : Summary of results for Secchi disc (m) and chlorophyll a (ug/L) from Jack Lake (Sharpe's Bay) 1974 to 1986. Seasonal mean data (more than 6 sampling dates) unless otherwise specified. A minimum of 4 results was required for graphing.



* based on 4 or 5 results

A good historical record of water quality has been established for Jack Lake in Sharpe's Bay with 10 years of Secchi disc data and 8 years of reliable chlorophyll data.

The degree of water clarity has been moderately high consistently since 1974 with Secchi disc readings ranging from 3.6 to 5 m.

The densities of suspended algae have been moderately low for the period of record with chlorophyll a concentrations ranging from 1.5 to 3 ug/L.

There has been no change in water quality in Sharpe's Bay since 1974.

We hope that your excellent participation in this program continues in 1987.

KAHSHE LAKE

MORRISON WARD
TOWN OF GRAVENHURST

DISTRICT MUNICIPALITY OF
MUSKOKA

Table 1: Secchi Disc (m) and chlorophyll a (ug/l) data collected from Kahshe Lake in 1986

Station	Kluey's Bay		Windy Cove		Main Channel	
Date	S.D.	Chl.a	S.D.	Chl.a	S.D.	Chl.a
July 6	2.5	6.4	2.5	4.3	--	--
July 20	2.8	4.4	2.8	4.3	--	--
July 27	3.4	2.4	3.1	3.2	--	--
Aug 10	2.6	4.3	2.7	4.5	--	--
Aug 17	3.5	2.0	3.5	2.5	--	--
Aug 24		2.4		2.5	--	--
	3.0	3.6	2.9	3.6	--	--

A good sampling program was done on Kahshe Lake in 1986, with sampling on 6 occasions. Secchi disc readings averaged 3.0 m at Kluey's Bay and 2.9 m at Windy Cove, indicating a moderately low degree of water transparency. Chlorophyll a concentrations ranged from 2.0 to 6.0 ug/L and averaged 3.6 ug/L in Kluey's Bay, and concentrations ranged from 2.5 to 4.5 ug/L in Windy Cove, and averaged 3.6 ug/L, indicating moderate densities of suspended algae. Based on these results, Kahshe Lake would be considered moderately enriched with a low degree of water transparency.

FIGURE 1: The relationship between Secchi disc and chlorophyll a for Kahshe Lake in 1986 and a number of recreational lakes in Central Region. All data are seasonal averages.

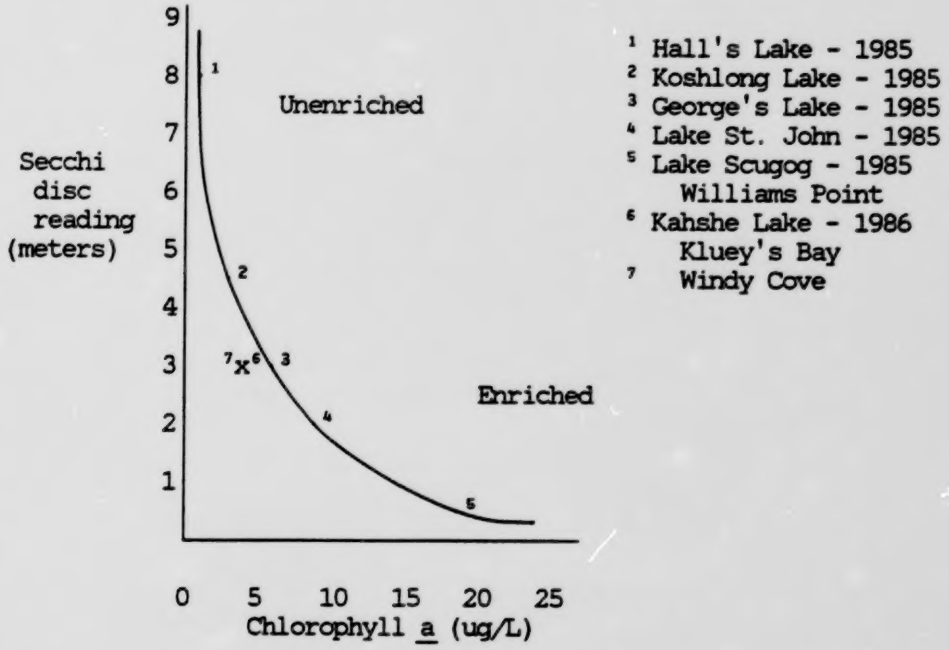
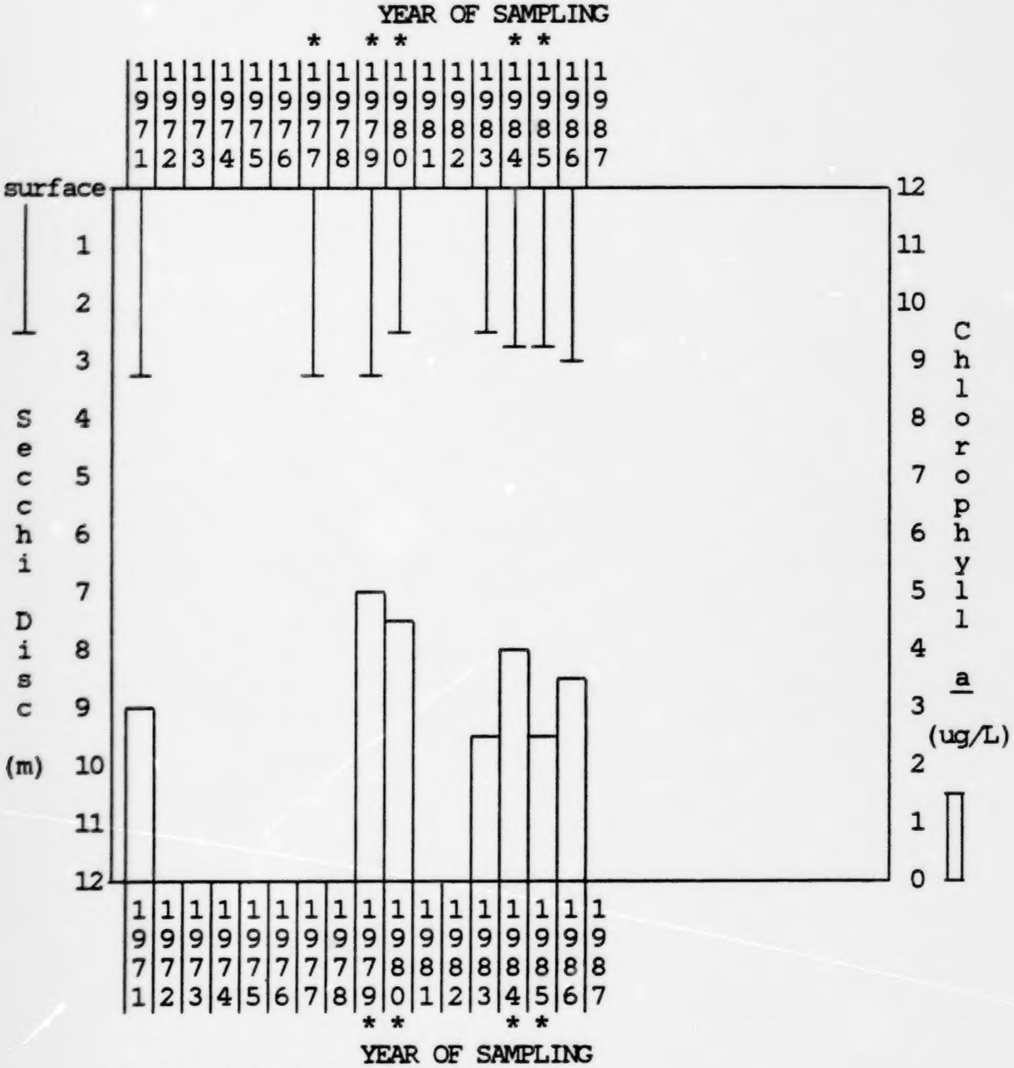


Figure 2 : Summary of results for Secchi disc (m) and chlorophyll a (ug/L) from Kahshe Lake from 1971 (deepest point) to 1986 (Kluey's Bay). Seasonal mean data (more than 6 sampling dates) unless otherwise specified. A minimum of 4 results was required for graphing.



* based on 4 or 5 results

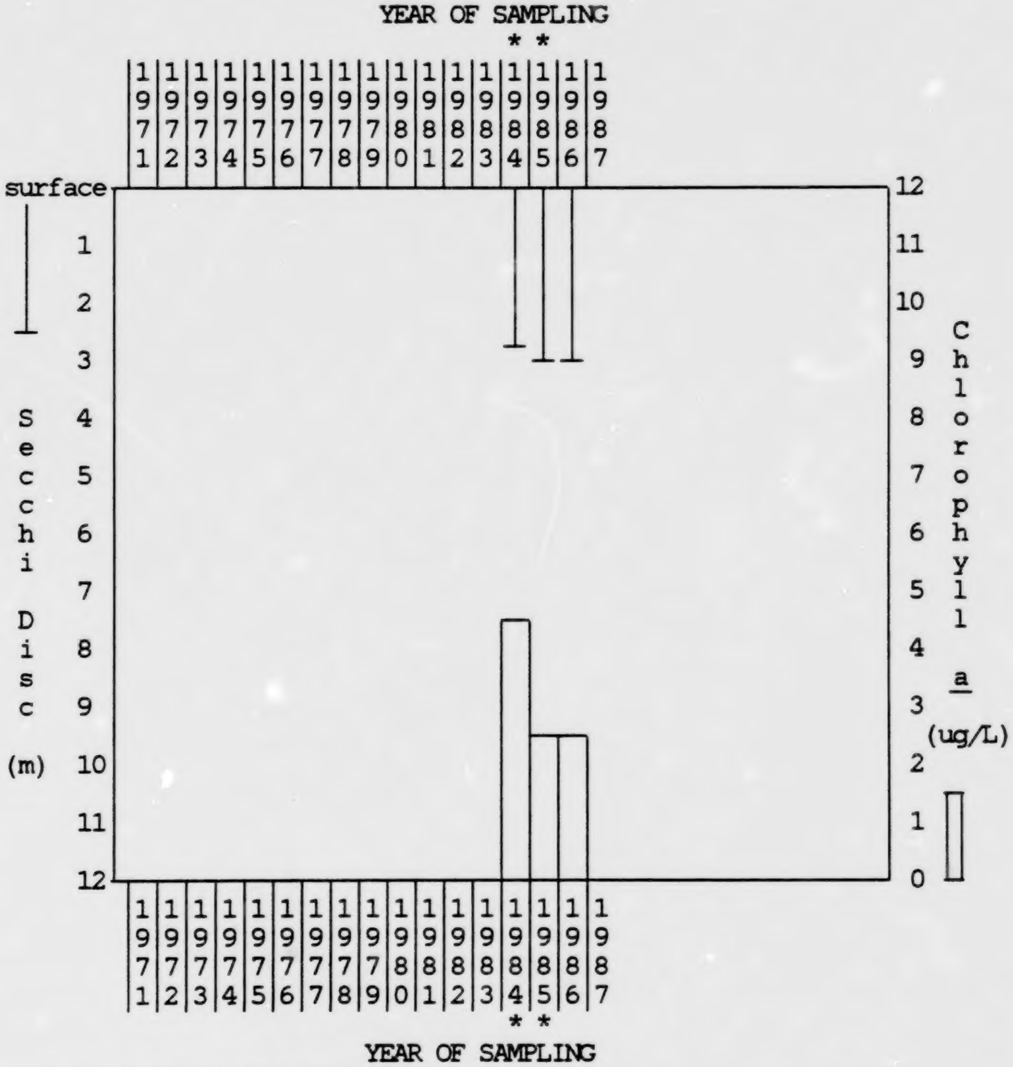
We have 7 years of reliable data available for Kahshe Lake in Kluey's Bay.

These results indicate that the degree of water clarity has been moderately low for the period of record.

Densities of suspended algae have ranged from moderately low to high. This is fairly typical for enriched lakes such as Kahshe Lake.

We hope you continue to sample in 1987 in order to establish a long-term record of water quality.

Figure 2 : Summary of results for Secchi disc (m) and chlorophyll a (ug/L) from Kahshe Lake (Windy Cove) from 1984 to 1986. Seasonal mean data (more than 6 sampling dates) unless otherwise specified. A minimum of 4 results was required for graphing.



* based on 4 results

We now have 3 years of data available for Windy Cove of Kahshe Lake. The available results indicate a low degree of water clarity and variable densities of suspended algae, typical of enriched lake conditions.

We hope that sampling continues in the future in order to establish a historical record of water quality data for this location.

KASHAGAWIGAMOG LAKE

DYSART & MINDEN TOWNSHIPS

COUNTY OF HALIBURTON

Table 1: Secchi Disc (m) and chlorophyll a (ug/L) data collected from Kashagawigamog Lake in 1986

Station	South End		Venture Bay	
Date	S.D.	Chl.a	S.D.	Chl.a
June 3	2.5	L 0.9		
June 15	3.5	2.1	4.5	1.7
July 1	2.5	EF		
July 6			3.5	EF
Aug 4	3.0	2.6		
Aug 10	3.75	1.6	3.9	2.4
Aug 24	3.0	5.4	3.25	3.1
Sept 1	3.5	3.1	3.75	2.6
	3.1	2.6	3.8	2.5

EF - Laboratory equipment failure.

A good sampling program was done in 1986 on Kashagawigamog Lake. Secchi disc readings were similar for both stations, averaging 3.1 m at the South End and 3.8 m at Venture Bay, indicating a moderate degree of water transparency. Chlorophyll a concentrations were also similar for both stations, averaging 2.6 ug/L at the South End and 2.5 ug/L at Venture Bay, indicating moderately low densities of suspended algae. Based on the 1986 results, Kashagawigamog Lake would be considered moderately enriched.

FIGURE 1: The relationship between Secchi disc and chlorophyll a for Kashagawigamog Lake in 1986 and a number of recreational lakes in Central Region. All data are seasonal averages.

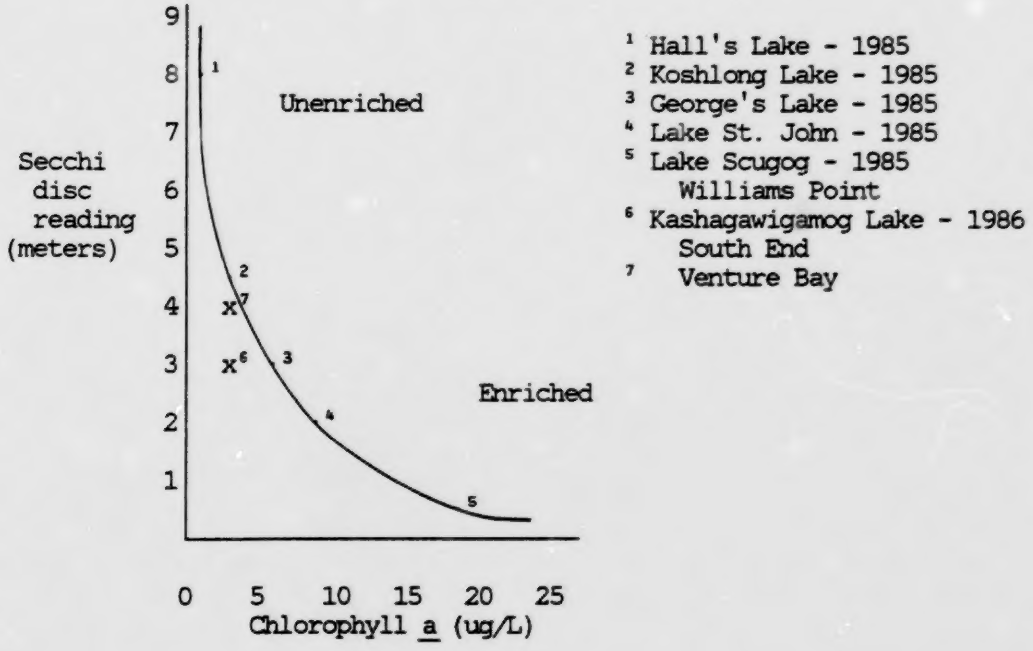
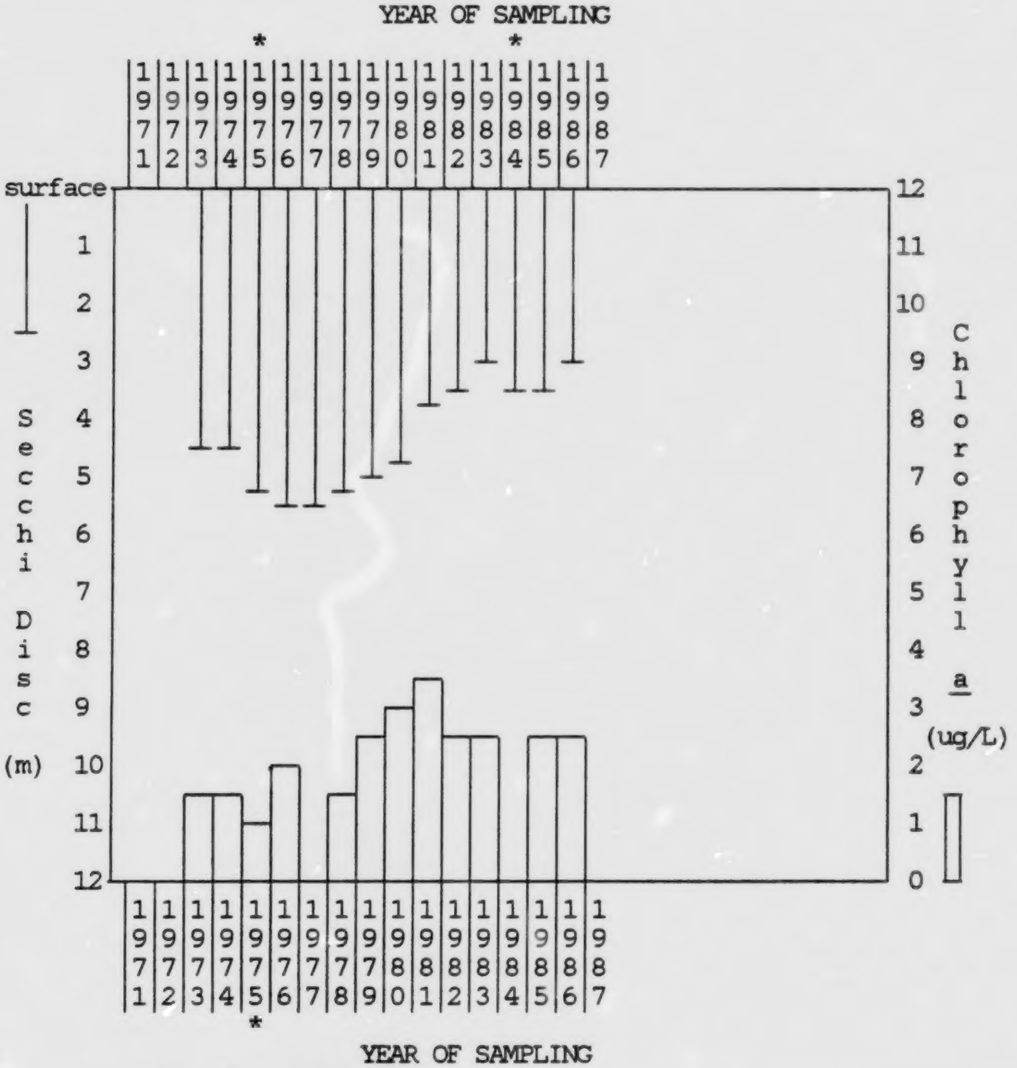


Figure 2 : Summary of results for Secchi disc (m) and chlorophyll a (ug/L) from Kashagawigamog Lake (South station) from 1973 to 1986. Seasonal mean data (more than 6 sampling dates) unless otherwise specified. A minimum of 4 results was required for graphing.



* based on 4 results

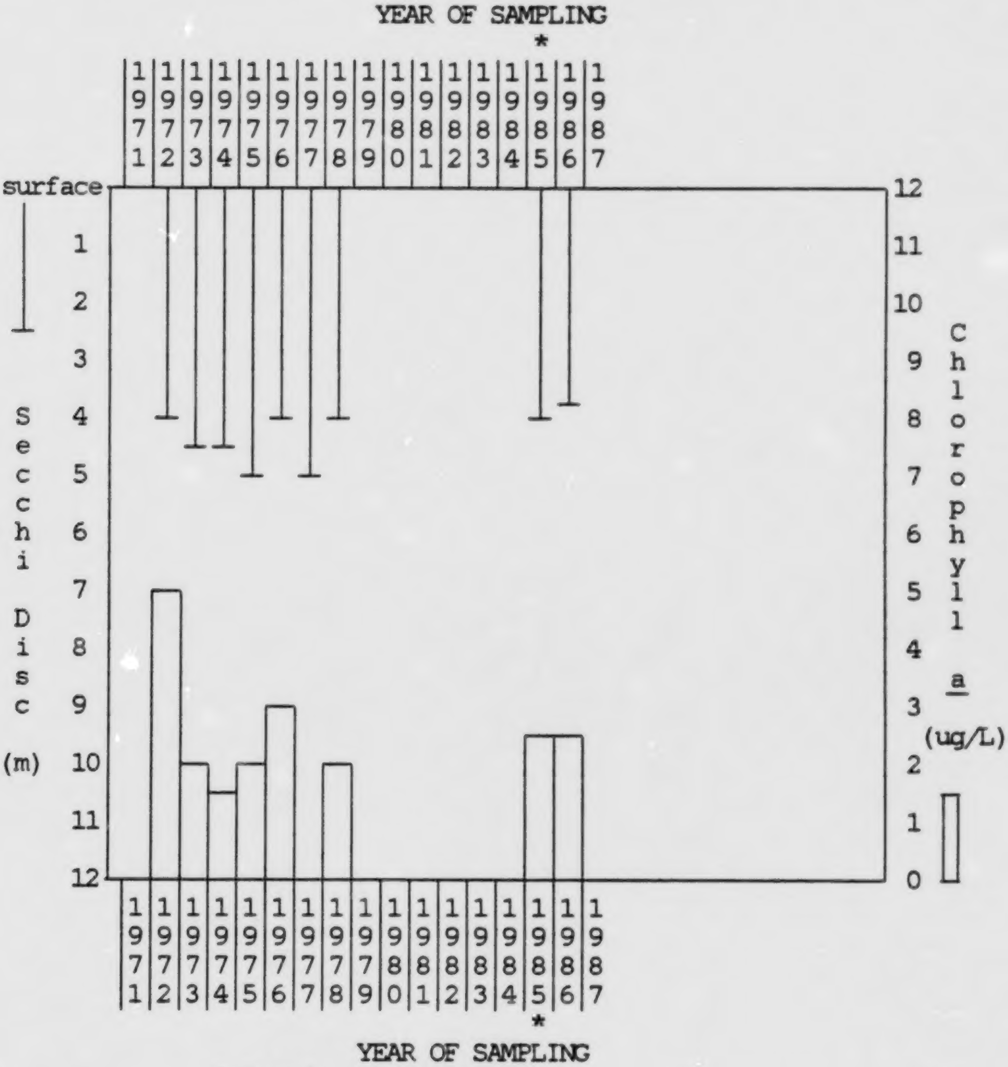
We now have 14 years of data for the South station of Kashagawigamog Lake which provides an excellent record of water quality changes. The degree of water clarity at this location has steadily declined since the start of the program in 1973, with Secchi disc readings greater than 5 m from 1975 to 1978 decreasing to less than 3 m in 1982 and 1983.

Densities of suspended algae have increased from low densities from 1973 to 1975 to moderately high densities in 1980 and 1981.

This apparent change in water quality in the South part of Kashagawigamog Lake prompted a detailed water quality survey by the Ministry of the Environment in 1985. The results of this survey are now being assessed and will be reported when complete.

We hope your valuable assistance in monitoring water quality in Kashagawigamog Lake continues in 1987.

Figure 2 : Summary of results for Secchi disc (m) and chlorophyll a (ug/L) from Kashagawigamog Lake (Venture Bay) from 1972 to 1986. Seasonal mean data (more than 6 sampling dates) unless otherwise specified. A minimum of 4 results was required for graphing.



* Based on 4 samples.

The 9 years of available data for Venture Bay of Kashagawigamog Lake indicates that the water quality has not changed significantly since 1972. The degree of water clarity has been moderately high consistently for the period of record.

Densities of suspended algae were high in 1972 but since then have been moderately low.

The overall decline in water clarity and increase in chlorophyll a observed in the South end of Kashagawigamog Lake has not been observed in Venture Bay.

We hope that sampling continues in 1987 in order to maintain a continuous record of water quality for this location.

KAWAGAMA LAKE

SHERBORNE TOWNSHIP

COUNTY OF HALIBURTON

Table 1: Secchi Disc (m) and chlorophyll a (ug/L) data collected from Kawagama Lake in 1986

Station	1-Minden Bay		3-Fishpole Pt		4-North Shore		5-Fletcher	
Date	S.D.	Chl.a	S.D.	Chl.a	S.D.	Chl.a	S.D.	Chl.a
June 22	5.66	2.3	9.0	L0.6	9.66	L0.2	6.75	L0.1
July 6	5.66	1.9	9.0	1.1	7.75	UR	7.66	UR
July 20	6.0	L0.9	7.5	UR	9.33	UR	7.66	UR
July 27	4.5	3.9	7.5	1.0	6.5	L0.9	6.5	1.3
Aug 4	4.25	1.3	10.25	3.9	11.75	1.0	6.66	2.7
Aug 17	4.75	3.0	11.0	1.2	12.5	1.1	7.25	3.3
Aug 24	4.5	2.8	9.25	L0.8	9.33	L0.9	5.75	3.2
	5.0	2.3	9.1	1.4	9.55	0.8	6.9	2.1

L - Less than
UR - Unreliable result

A good sampling program was conducted on Kawagama Lake in 1986. Secchi disc readings averaged 5.0 m at Minden Bay, 9.1 m at Fishpole Pt., 9.55 m at North Shore and 6.9 m at Fletcher, indicating an excellent degree of water clarity. Chlorophyll a concentrations were all low, averaging 2.3 ug/L at Minden Bay, 1.4 ug/L at Fishpole Pt., 0.8 ug/L at North Shore and 2.1 ug/L at Fletcher, indicating moderately low to low densities of suspended algae. Based on these results, Kawagama Lake would be considered unenriched with excellent water quality.

FIGURE 1: The relationship between Secchi disc and chlorophyll a for Kawagama Lake in 1986 and a number of recreational lakes in Central Region. All data are seasonal averages.

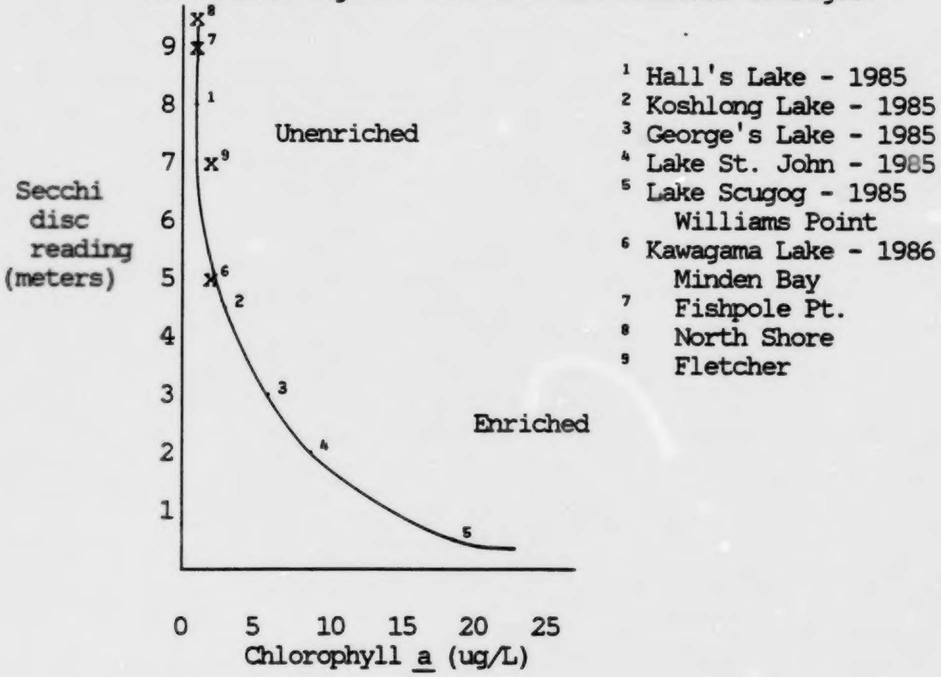
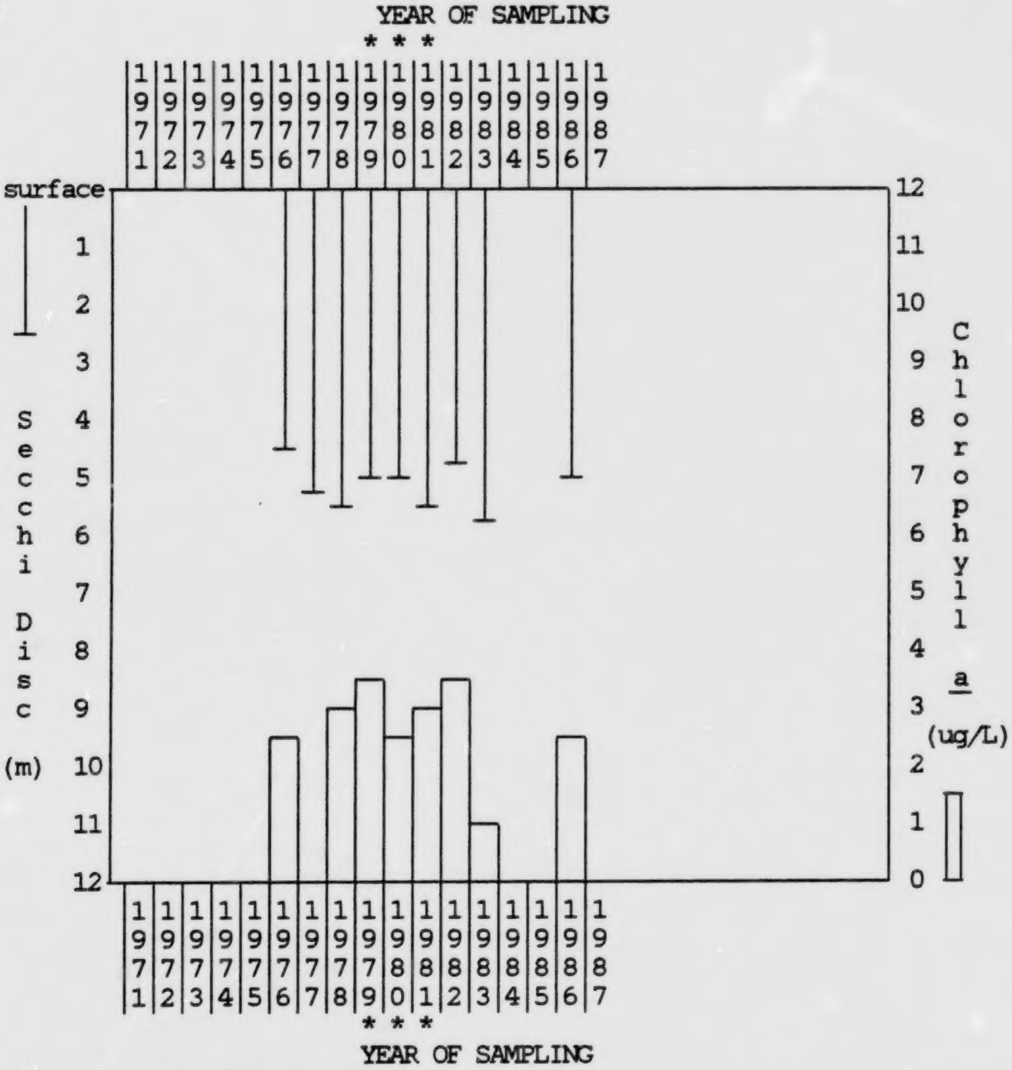


Figure 2 : Summary of results for Secchi disc (m) and chlorophyll a (ug/L) from Kawagama Lake (Station 1 Minden Bay) from 1976 to 1986. Seasonal mean data (more than 6 sampling dates) unless otherwise specified. A minimum of 4 results were required for graphing.

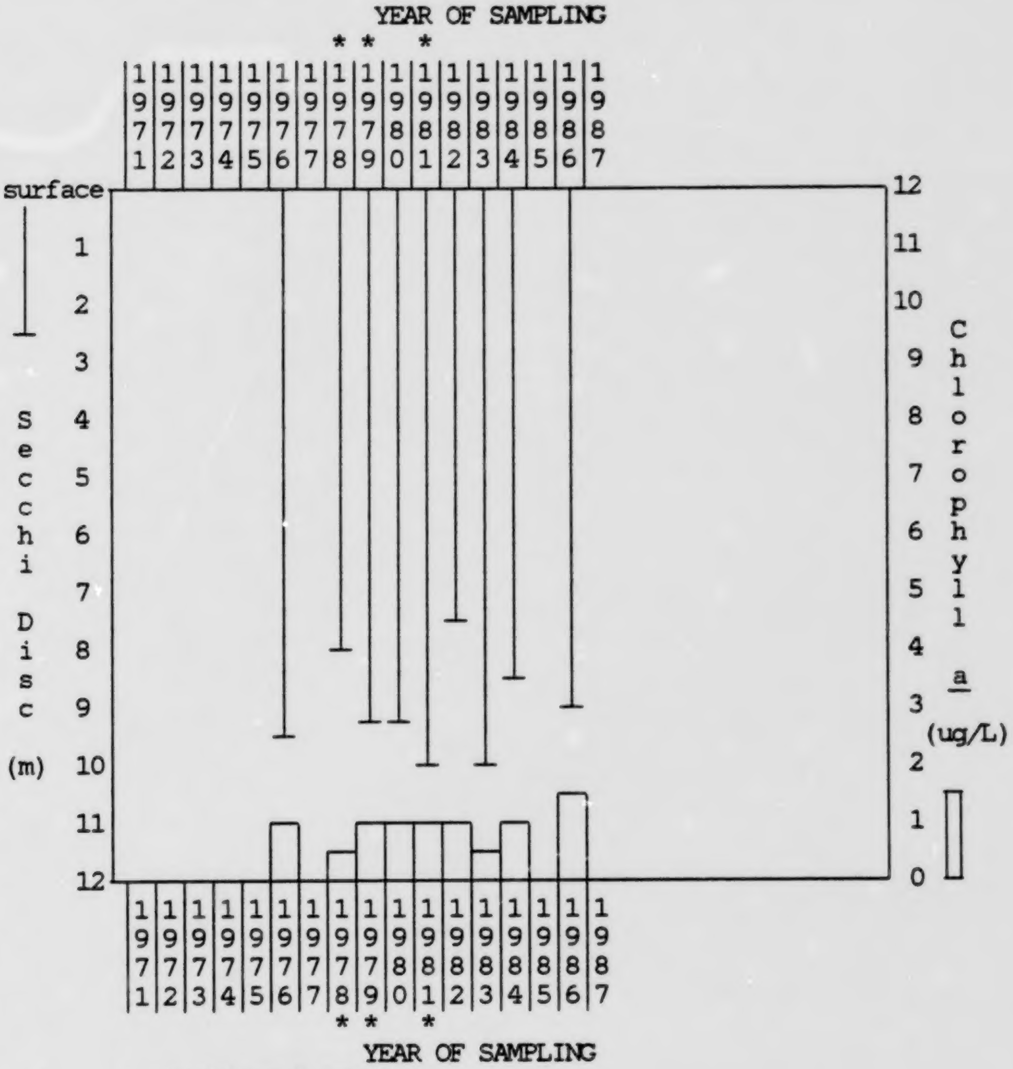


* based on 5 results

We now have 9 years of data for Minden Bay of Kawagama Lake. The degree of water clarity has been moderately high to high for the period of record with Secchi disc readings ranging from 4.5 to 6 m. The densities of suspended algae have ranged from low to moderately high. This reflects the normal changes we might expect to see in a shallower bay with restricted water circulation.

We hope you continue to sample Minden Bay in 1987.

Figure 2 : Summary of results for Secchi disc (m) and chlorophyll a (ug/L) from Kawagama Lake (Station 3 Fishpole Point) from 1976 to 1986. Seasonal mean data (more than 6 sampling dates) unless otherwise specified. A minimum of 4 results were required for graphing.



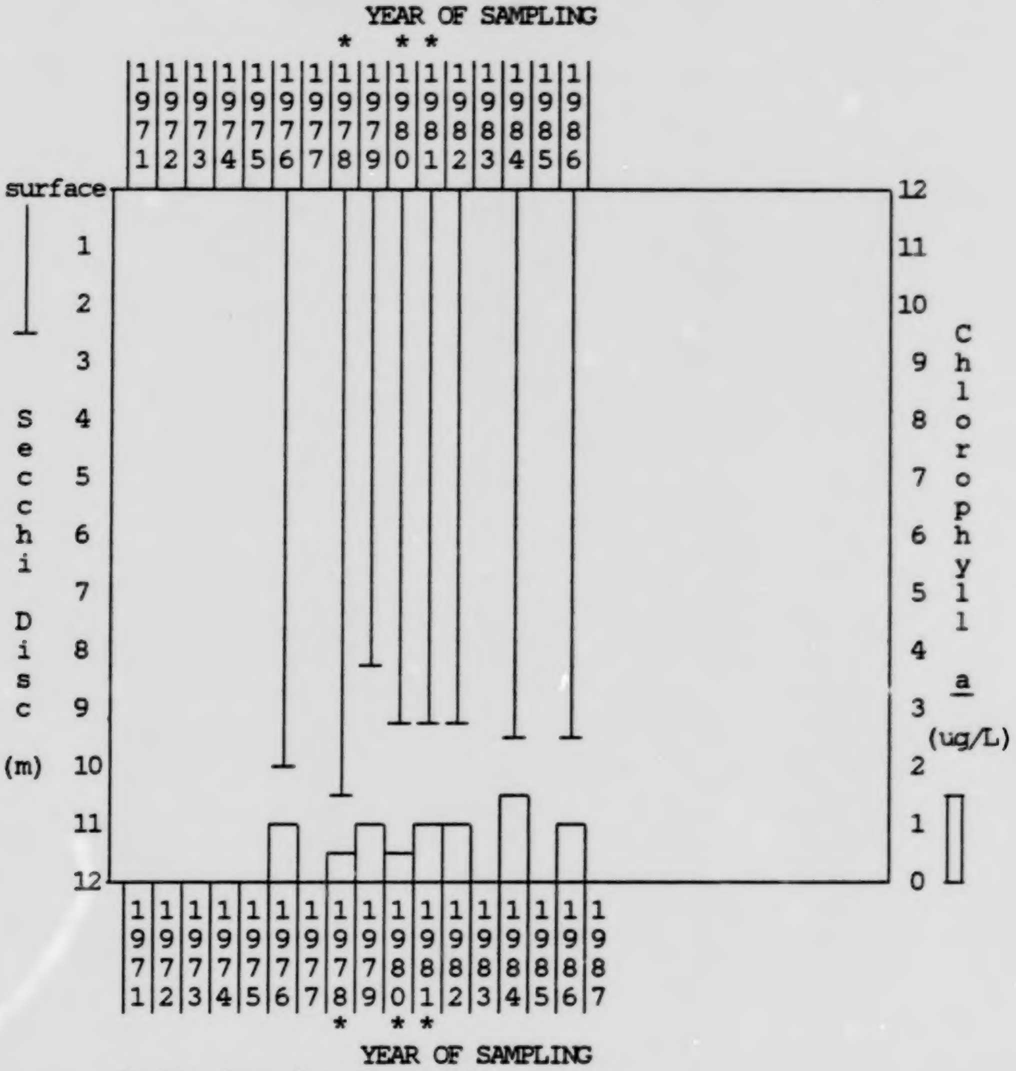
* based on 5 results

We now have 9 years of data available for the Fishpole Pt. station. These results indicate that water quality continues to be excellent with a very high degree of water clarity and low densities of suspended algae.

There has been no change in water quality since 1975.

We hope sampling continues in 1987 at this station.

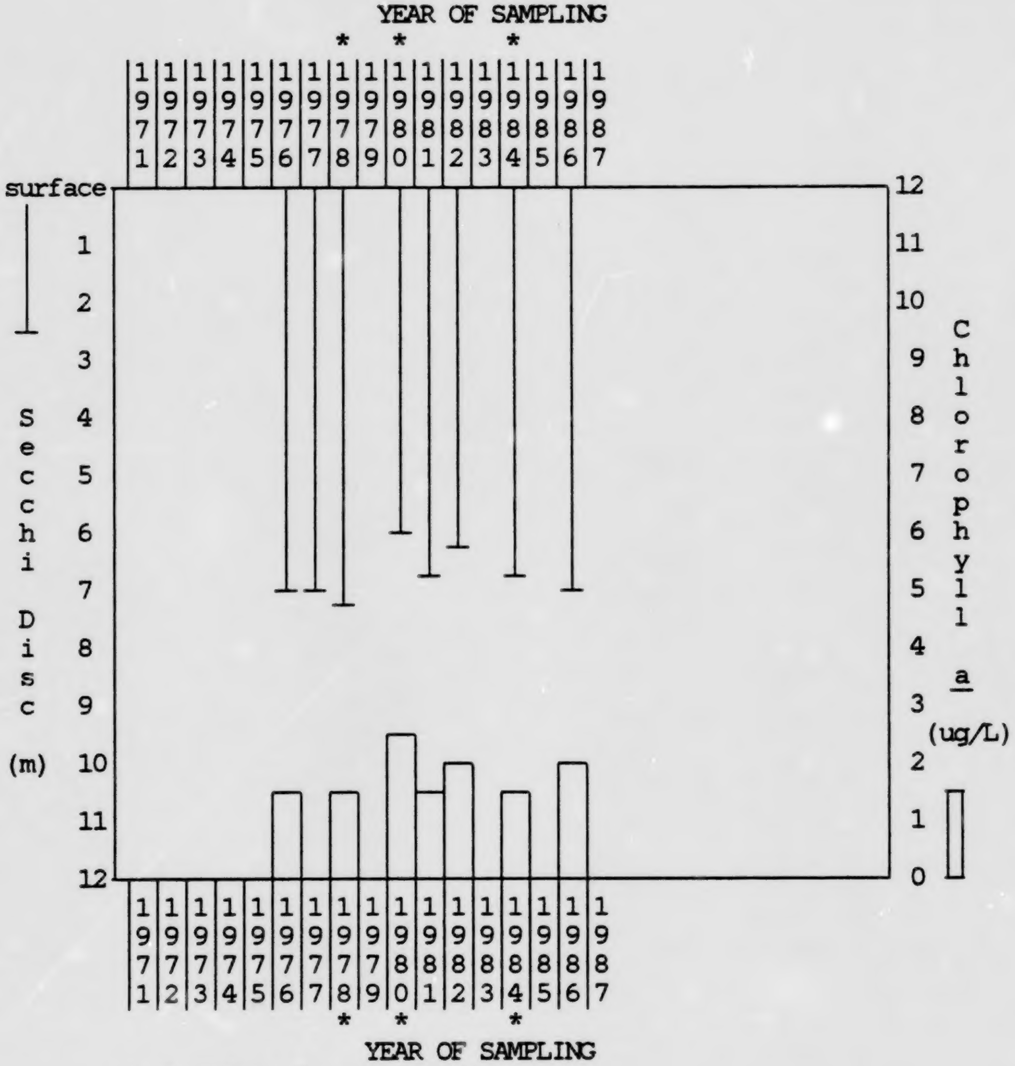
Figure 2 : Summary of results for Secchi disc (m) and chlorophyll a (ug/L) from Kawagama Lake (Station 4 North Shore) from 1976 to 1986. Seasonal mean data (more than 6 sampling dates, unless otherwise specified. A minimum of 4 results was required for graphing.



* based on 4 or 5 results

The 8 years of available data for the North Shore station of Kawagama Lake indicate that water quality continues to be excellent.
The degree of water clarity is very high and the densities of suspended algae are very low. Water quality at this location is very similar to the Fishpole Point station.
We hope you continue to sample at this location in 1987.

Figure 2 : Summary of results for Secchi disc (m) and chlorophyll a (ug/L) from Kawagama Lake (Station 6 Fletcher Bay) from 1976 to 1986. Seasonal mean data (more than 6 sampling dates) unless otherwise specified. A minimum of 4 results was required for graphing.



* based on 4 or 5 results

The 7 years of available data for Fletcher Bay indicate that there has been no noticeable change in water quality since 1976.

The degree of water clarity continues to be very high and the densities of suspended algae have been low for most of the period of record except in 1980.

Water quality at this location continues to be excellent.

We hope you continue to sample at this location in 1987.

KENNISIS LAKE

HAVELOCK & GUILFORD TOWNSHIPS

COUNTY OF HALIBURTON

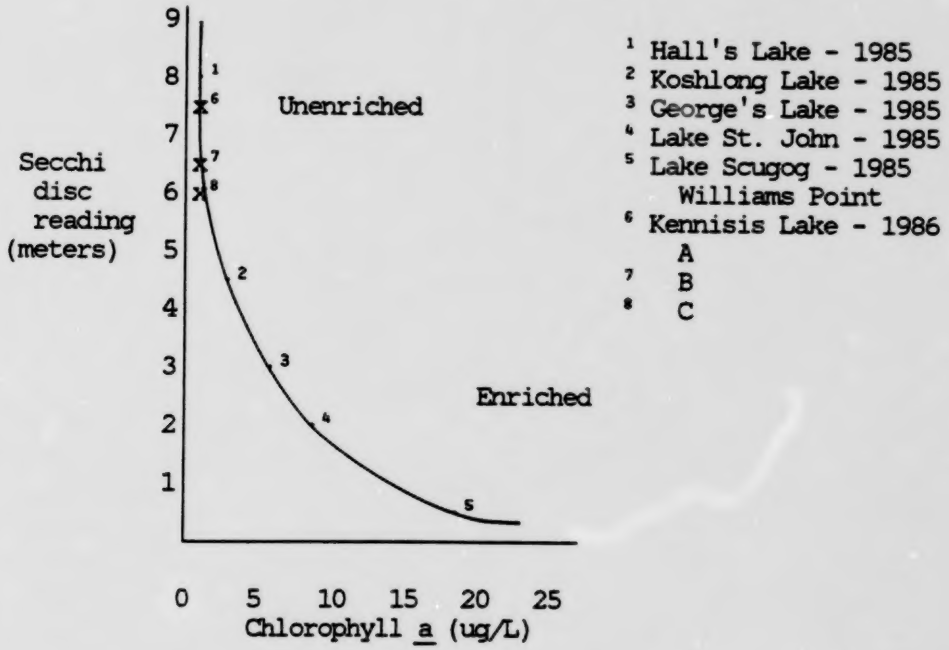
Table 1: Secchi Disc (m) and chlorophyll a (ug/L) data collected from Kennisis Lake in 1986

Station	A		B		C	
Date	S.D.	Chl.a	S.D.	Chl.a	S.D.	Chl.a
July 6	6.0	L 0.9	7.0	L 0.6	5.0	L 0.6
July 13			6.0	1.0	6.0	L 0.9
July 20	8.0	0.8				
July 27			6.0	1.0	6.0	1.0
Aug 4	8.0	1.3				
Aug 10	7.0	1.2				
Aug 17	8.5	1.8				
Sept 1	7.5	1.9	7.0	1.1	6.0	1.2
	7.5	1.3	6.5	0.9	5.8	0.9

L - Less than

For text see attached page.

FIGURE 1: The relationship between Secchi disc and chlorophyll a for Kennisis Lake in 1986 and a number of recreational lakes in Central Region. All data are seasonal averages.



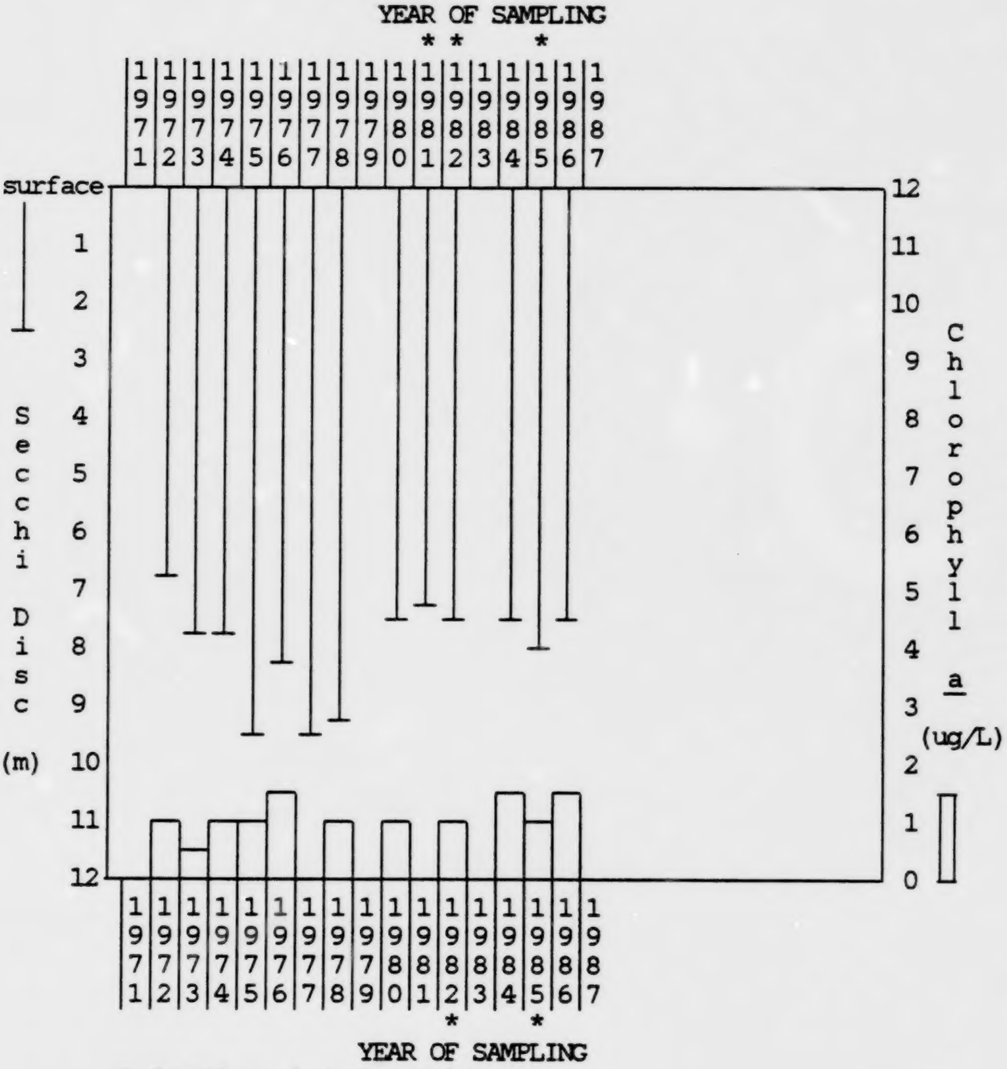
KENNISIS LAKE (page 2)

HAVELOCK & GUILFORD TOWNSHIPS

COUNTY OF HALIBURTON

In 1986, sampling was done on 6 occasions at station A, and on 4 occasions at stations B and C.
Secchi disc readings averaged 7.5 m at station A, 6.5 m at station B, and 5.8 m at station C, indicating a high degree of water transparency.
Chlorophyll a concentrations averaged 1.3 ug/L at station A, and 0.9 ug/L at both stations B and C, indicating low densities of suspended algae.
Based on these results, Kennisis Lake would be considered unenriched, with excellent water quality.

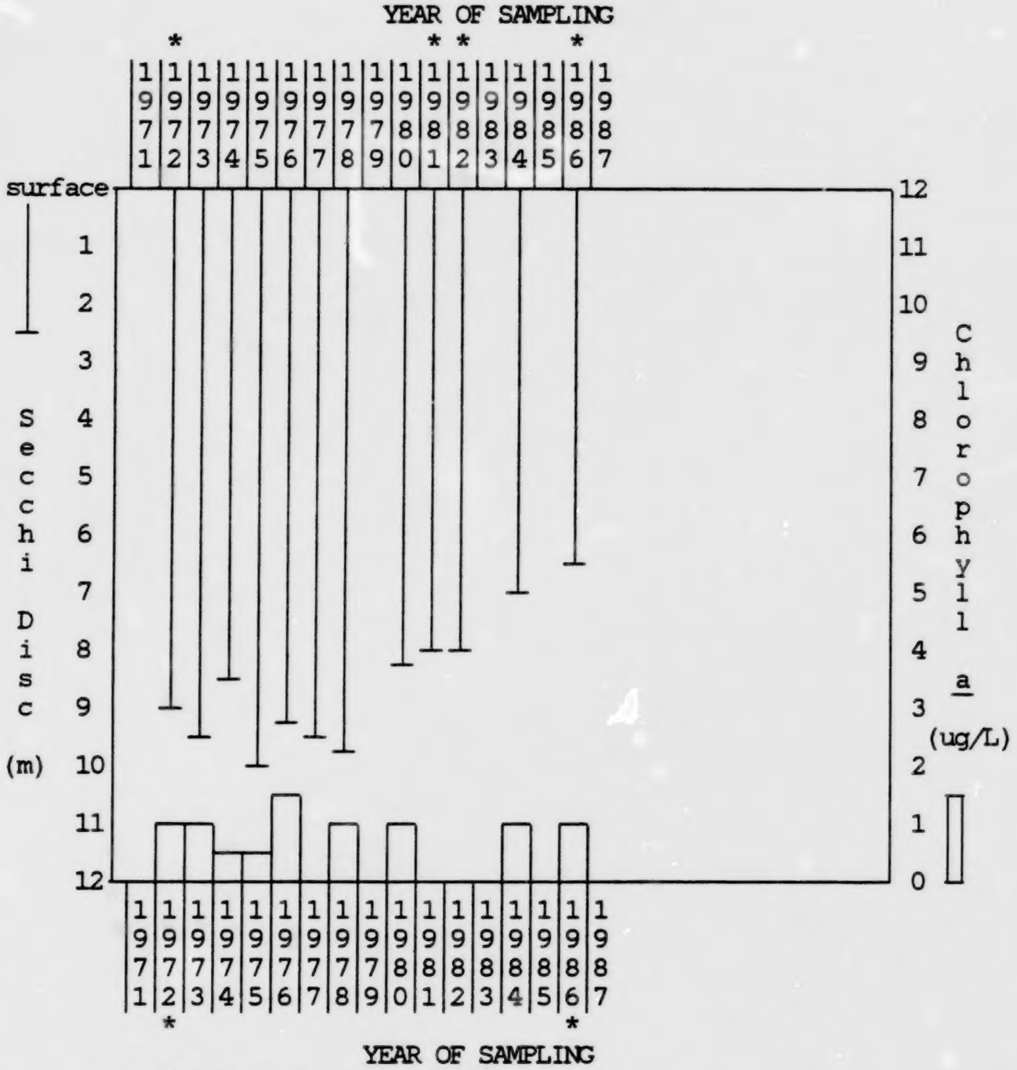
Figure 2 : Summary of results for Secchi disc (m) and chlorophyll a (ug/L) from Kennisis Lake (Point A) from 1972 to 1986. Seasonal mean data (more than 6 sampling dates) unless otherwise specified. A minimum of 4 results was required for graphing.



* based on 4 or 5 results

An excellent historical record of water quality has been established for Point A in Kennisis Lake with 13 years of available data. The degree of water clarity has been very high for the period of record with Secchi disc readings ranging from 6.5 to 9.5 m. Densities of suspended algae have been consistently low since 1972. We hope that you continue your excellent participation in this program in 1987.

Figure 2 : Summary of results for Secchi disc (m) and chlorophyll a (ug/L) from Kennisis Lake (Point B) from 1973 to 1986. Seasonal mean data (more than 6 sampling dates) unless otherwise specified. A minimum of 4 results was required for graphing.



* based on 4 or 5 results

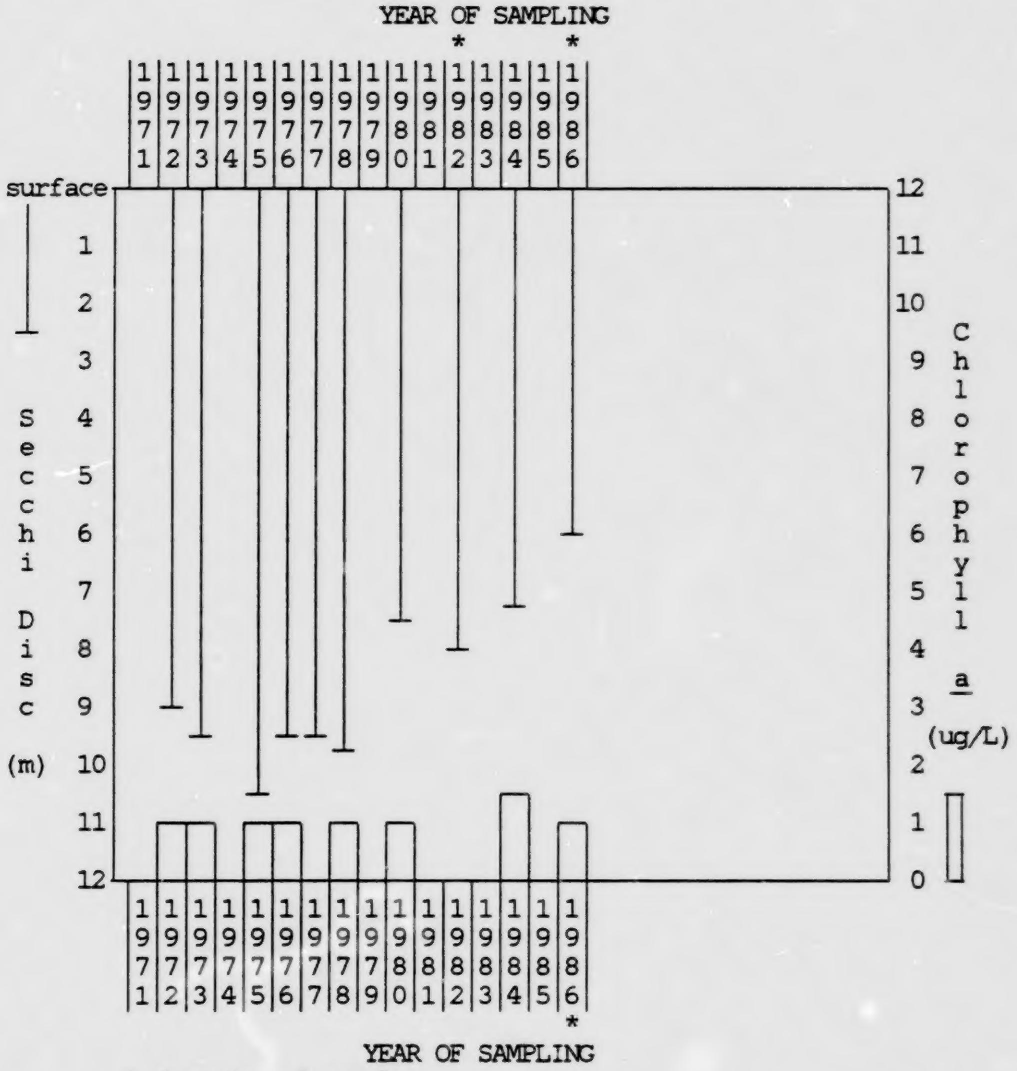
We have 12 years of available data for Point B of Kennisis Lake, and results indicate that the water quality at this location has been very good.

The degree of water clarity has declined somewhat in recent years with Secchi disc readings ranging from 8.5 to 10 m from 1972 to 1978 and then ranging from 6.5 to 8.5 m from 1980 to 1986.

There has been no corresponding increase in chlorophyll a concentrations so the reason for the decreased water clarity is not apparent.

We hope that sampling is continued in 1987 with increased sampling frequency at this location.

Figure 2 : Summary of results for Secchi disc (m) and chlorophyll a (ug/L) from Kennisis Lake (Point C) from 1972 to 1986. Seasonal mean data (more than 6 sampling dates) unless otherwise specified. A minimum of 4 results was required for graphing.



* based on 4 results

We have 10 years of available data for Point C on Kennisis Lake, and, results indicate that the water quality was very good. The degree of water clarity appears to have declined somewhat in recent years. Secchi disc readings were in the range of 9 to 10.5 m from 1972 to 1978, then ranged from 5.7 to 8 m from 1980 to 1986. We hope that sampling continues at this location in 1987 with increased sampling frequency in order to monitor this apparent trend.

KOSHLONG LAKE

GLAMORGAN TOWNSHIP

COUNTY OF HALIBURTON

Table 1: Secchi Disc (m) and chlorophyll a (ug/L) data collected from Koshlong Lake in 1986.

Station Date	Gains Point S.D.	 Chl.a	Umbrella Is. S.D.	 Chl.a
May 19	3.2	1.2	4.1	1.1
June 15	4.5	2.0	4.1	1.7
June 22	4.0	1.1	3.3	L 0.9
July 1	4.0	1.4		
July 6	4.6	UR	4.5	UR
July 13	3.5	4.8	3.5	4.7
July 20	3.7	4.2	3.8	4.6
July 27	4.5	4.2	5.0	6.1
Aug 4	5.0	4.1		
Aug 10	4.0	10.0	5.0	8.1
Sept 1	5.5	2.5	5.0	3.1
Sept 28	4.8	4.0	4.3	3.2
	4.3	3.4	4.3	3.7

L - Less than
UR - Unreliable result

An excellent sampling program was done again on Koshlong Lake in 1986, with 12 sampling occasions at Gains Point, and 10 sampling occasions at Umbrella Island. Secchi disc readings were similar at both locations, averaging 4.3 m, indicating a moderately high degree of water transparency. Chlorophyll a concentrations were also similar, averaging 3.4 ug/L at Gains Point, and 3.7 ug/L at Umbrella Is., indicating moderate densities of suspended algae.

Based on these results, Koshlong Lake would be considered moderately enriched.

FIGURE 1: The relationship between Secchi disc and chlorophyll a for Koshlong Lake in 1986 and a number of recreational lakes in Central Region. All data are seasonal averages.

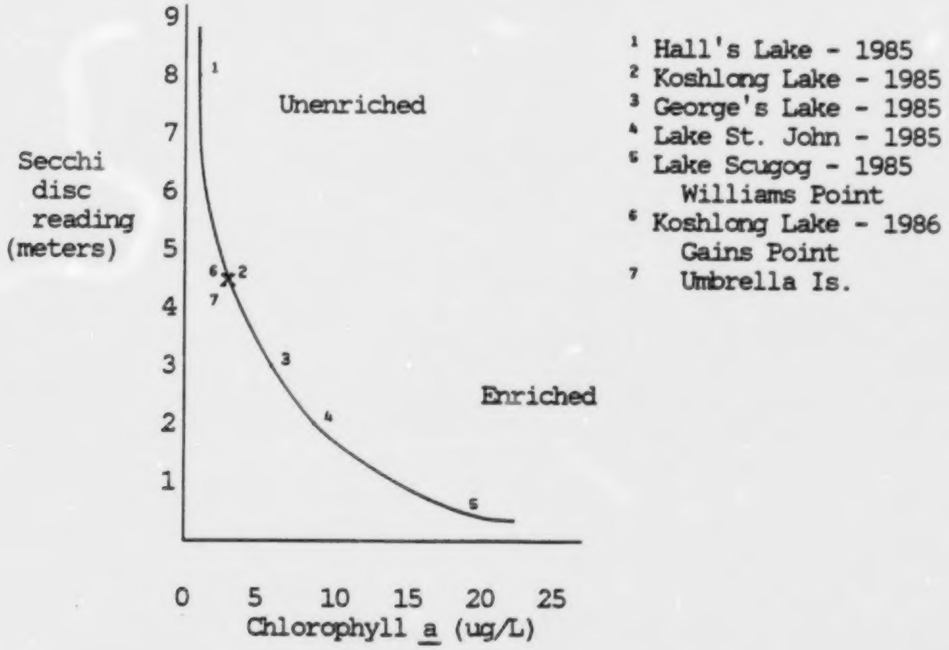
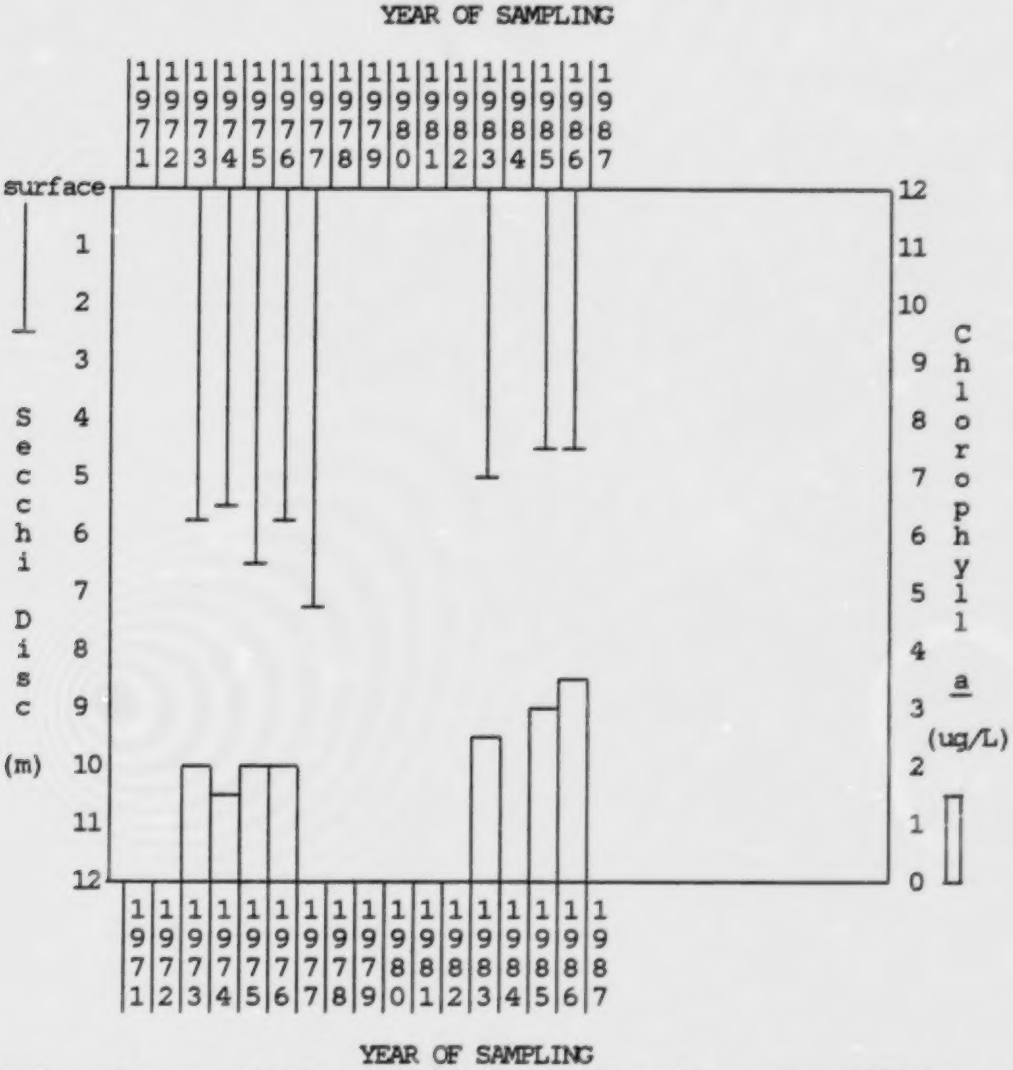
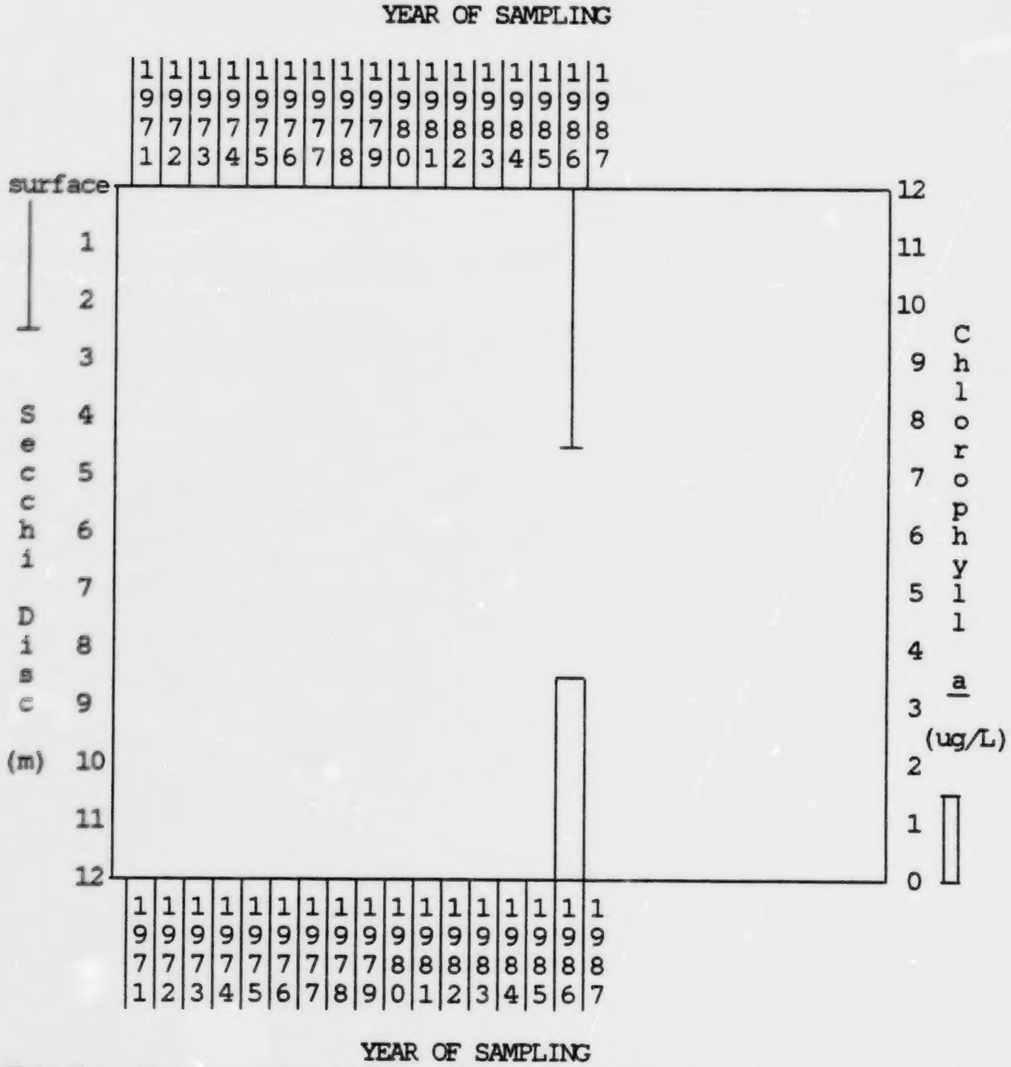


Figure 2 : Summary of results for Secchi disc (m) and chlorophyll a (ug/L) from Koshlong Lake (Gains Point) from 1973 to 1986 (1973-1983 results from 1 central station). Seasonal mean data (more than 6 sampling dates) only. A minimum of 4 results required for graphing.



We have 8 years of data available for Koshlong Lake. From 1973 to 1983 the results are from a central station and not from Gains Point. These results indicate that the degree of water transparency was high from 1973 to 1977 with a slight decrease in 1983. Gains Point in 1985 and 1986 had a moderately high degree of water clarity.
Densities of suspended algae were low from 1973 to 1976 and moderately low in 1983, 1985 and 1986.
We hope that sampling continues at Gains Point in 1987 in order to establish a long-term record of water quality data for this location.

Figure 2 : Summary of results for Secchi disc (m) and chlorophyll a (ug/L) from Koshlong Lake (Umbrella Island) for 1986. Seasonal mean data (more than 6 sampling dates only. A minimum of 4 results required for graphing.



This location has only been sampled for 1 year, so we are unable to make any comments regarding long-term water quality changes at this location.

We hope you continue to sample in 1987 to establish a good historical record of water quality for Koshlong Lake at this location.

KUSHOG LAKE

STANHOPE TOWNSHIP

COUNTY OF HALIBURTON

Table 1: Secchi Disc (m) and chlorophyll a (ug/L) data collected from Kushog Lake in 1986.

Station	Fraser's Bay			
Date	S.D.	Chl.a	S.D.	Chl.a
July 1	4.2	1.8		
July 27	4.3	5.6		
Aug 17	4.6	2.5		
Sept 1	3.65	3.1		
	-----	-----		
	4.2	3.3		
	-----	-----		

Insufficient sampling was done in 1986 to obtain reliable seasonal averages, with sampling done on 4 occasions.
Based on the results obtained, the degree of water transparency was moderate. The chlorophyll a concentrations were moderate, indicating moderate densities of suspended algae.
Based on these results, Kushog Lake would be considered moderately enriched. If sampling is done in 1987, we recommend increasing sampling frequency to 6 sampling occasions, if possible.

FIGURE 1: The relationship between Secchi disc and chlorophyll a for Kushog Lake in 1986 and a number of recreational lakes in Central Region. All data are seasonal averages.

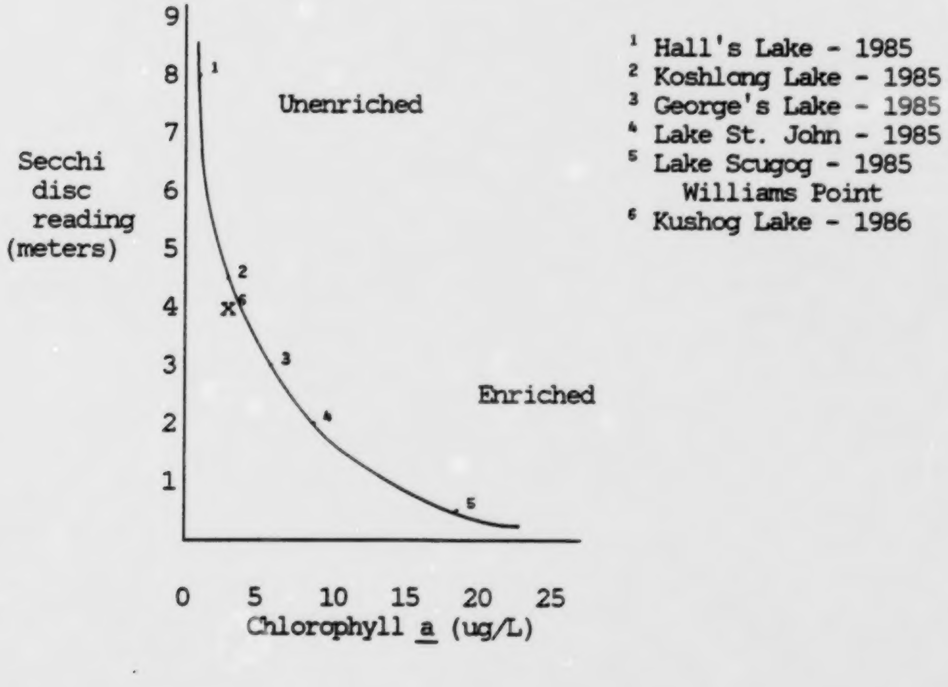
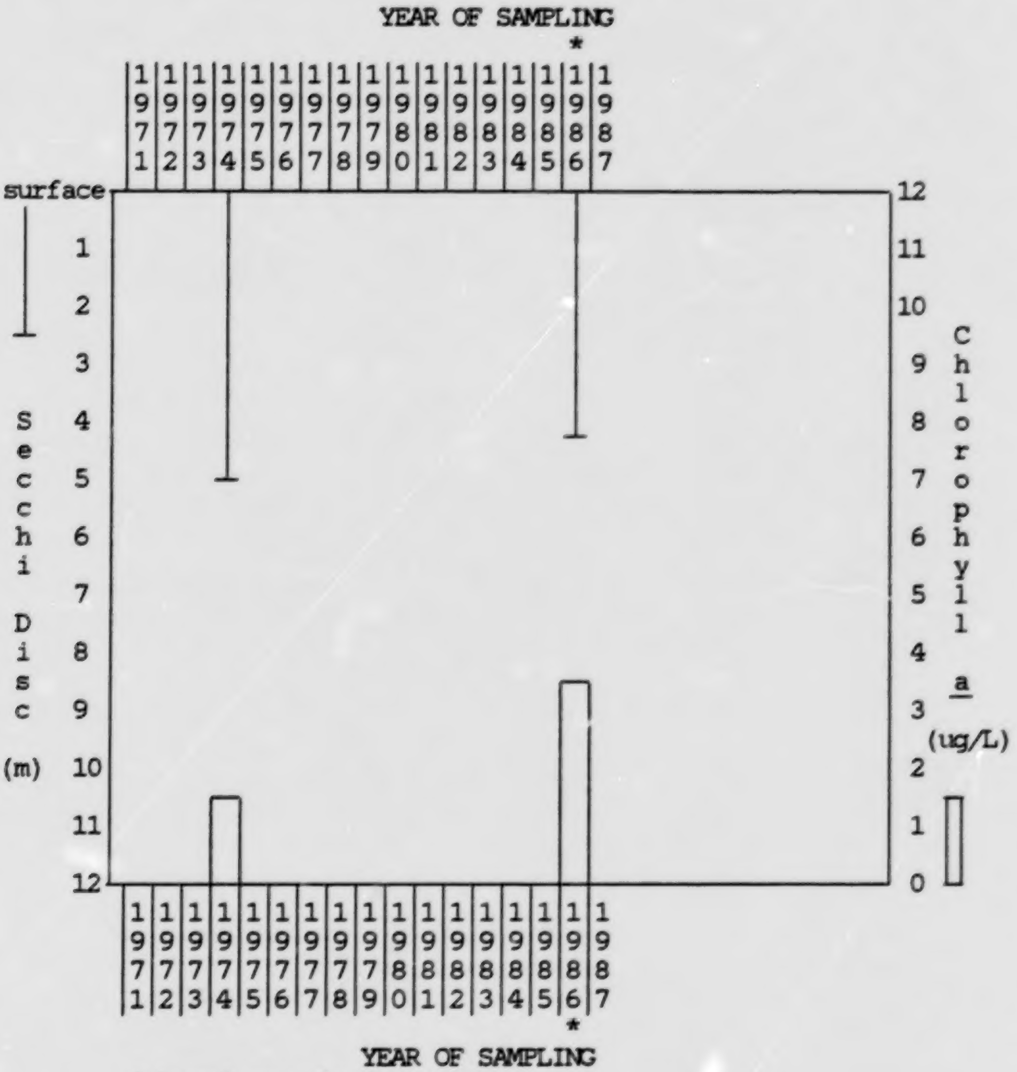


Figure 2 : Summary of results for Secchi disc (m) and chlorophyll a (ug/L) from Kushog Lake (Fraser's Bay) in 1974 and 1986 data is from a central location on Kushog Lake. Seasonal mean data (more than 6 sampling dates only). A minimum of 4 results were required for graphing.



* based on only 4 results

There are only 2 years of reliable data for this station, so we are unable to comment on long-term water quality changes.

We hope sampling continues in 1987 with increased sampling frequency.

LAKE OF BAYS (page 1)

TOWNSHIP OF LAKE OF BAYS

DISTRICT MUNICIPALITY OF MUSKOKA

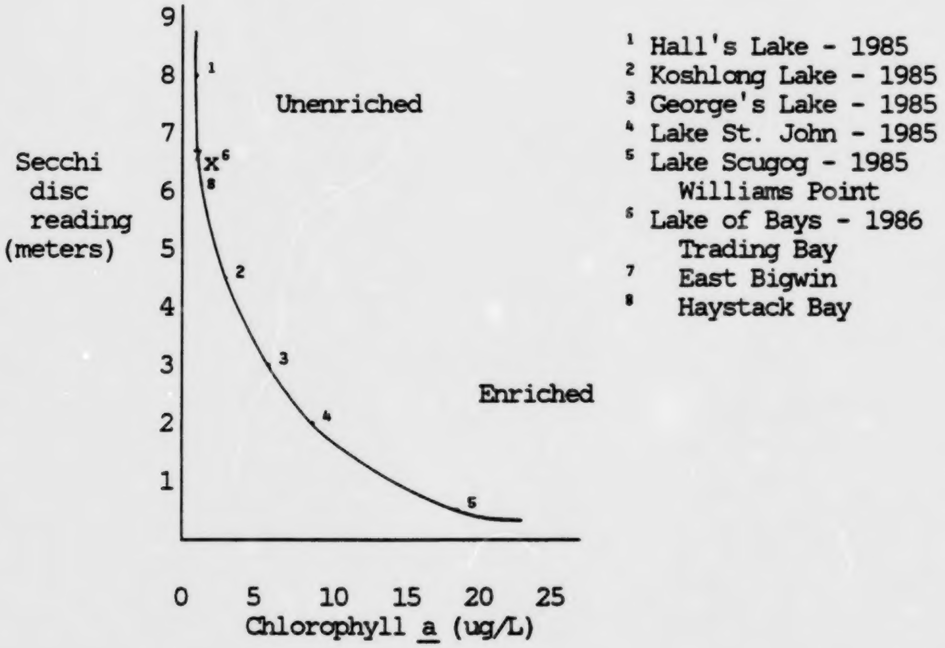
Table 1: Secchi Disc (m) and chlorophyll a (ug/L) data collected from Lake of Bays in 1986

Station	2		5		6	
	Trading Bay		East Bigwin		Haystack Bay	
Date	S.D.	Chl.a	S.D.	Chl.a	S.D.	Chl.a
May 27	5.25	L 0.7	5.5	L 0.6	6.5	L 0.4
June 10	6.0	L 0.9	6.5	L 0.9	6.5	L 0.9
July 2	6.5	1.1	5.5	1.2	6.0	1.4
July 15	8.5	1.5	6.5	L 0.7	7.5	1.3
July 28	7.0	1.4				
Aug 1			7.5	1.3	6.5	1.6
Aug 12	7.0	2.9	7.5	1.5	6.5	2.1
Aug 25	6.5	2.6	6.5	1.8	7.0	1.8
Sept 5			5.5	2.2	5.5	2.3
Sept 9	7.0	1.7				
Sept 17	6.5	2.0	6.5	1.9	7.0	1.8
Sept 24	7.0	2.0	5.5	1.9	5.5	2.2
	6.7	1.7	6.3	1.4	6.5	1.6

L - Less than

See attached page for text.

FIGURE 1: The relationship between Secchi disc and chlorophyll a for Lake of Bays in 1986 and a number of recreational lakes in Central Region. All data are seasonal averages.



LAKE OF BAYS (page 2)

TOWNSHIP OF LAKE OF BAYS

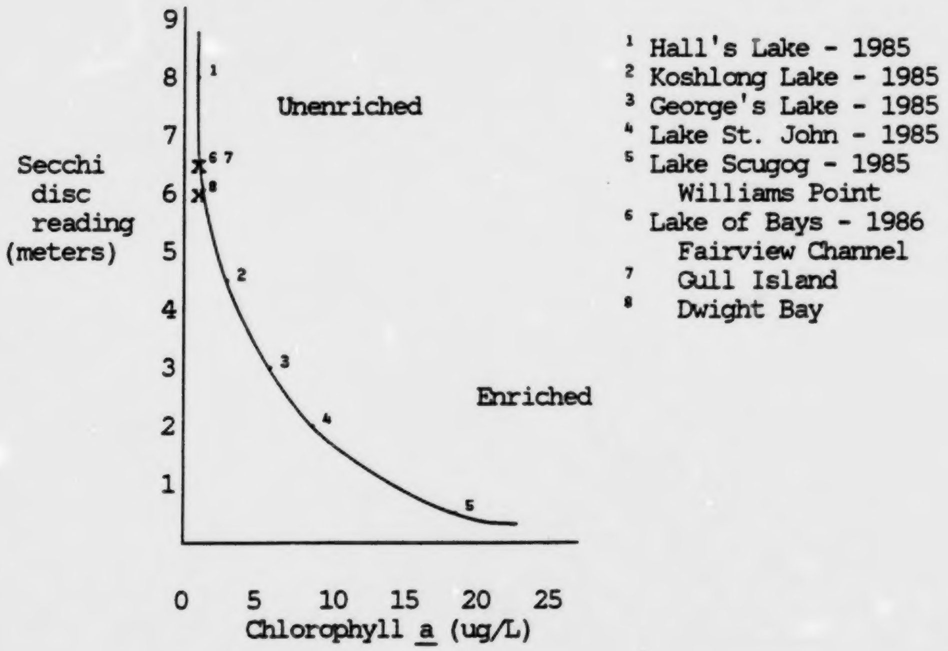
DISTRICT MUNICIPALITY OF MUSKOKA

Table 1: Secchi Disc (m) and chlorophyll a (ug/L) data collected from Lake of Bays in 1986

Station	7		10		12	
	Fairview Channel		Gull Island		Dwight Bay	
Date	S.D.	Chl.a	S.D.	Chl.a	S.D.	Chl.a
May 26	7.75	L 0.6	5.25	L 0.4	3.5	L 0.8
June 10	6.75	L 0.8	5.5	1.1	4.5	1.2
July 1	5.0	1.5	4.5	1.5	4.0	1.7
July 15	7.0	L 0.9	5.25	1.1	5.25	1.5
July 27	7.0	L 0.8	7.25	1.5	6.5	1.7
Aug 12	5.5	2.0				
Aug 22			6.5		6.5	
Aug 25	6.0	1.5	8.0		7.5	
Sept 1			7.5	1.4	8.5	1.2
Sept 5	6.0	2.1				
Sept 14			4.0	1.7	4.0	1.9
Sept 17	6.5	1.8				
Sept 22			6.5	1.4	6.5	1.2
Sept 24	7.0	1.8	6.5	NF	5.5	2.0
Sept 25			8.0	1.9	7.5	2.0
	-----	-----	-----	-----	-----	-----
	6.5	1.2	6.2	1.3	5.8	1.5

L - Less than NF - No data See attached page for text.

FIGURE 1: The relationship between Secchi disc and chlorophyll a for Lake of Bays in 1986 and a number of recreational lakes in Central Region. All data are seasonal averages.



LAKE OF BAYS (page 3)

TOWNSHIP OF LAKE OF BAYS

DISTRICT MUNICIPALITY OF MUSKOKA

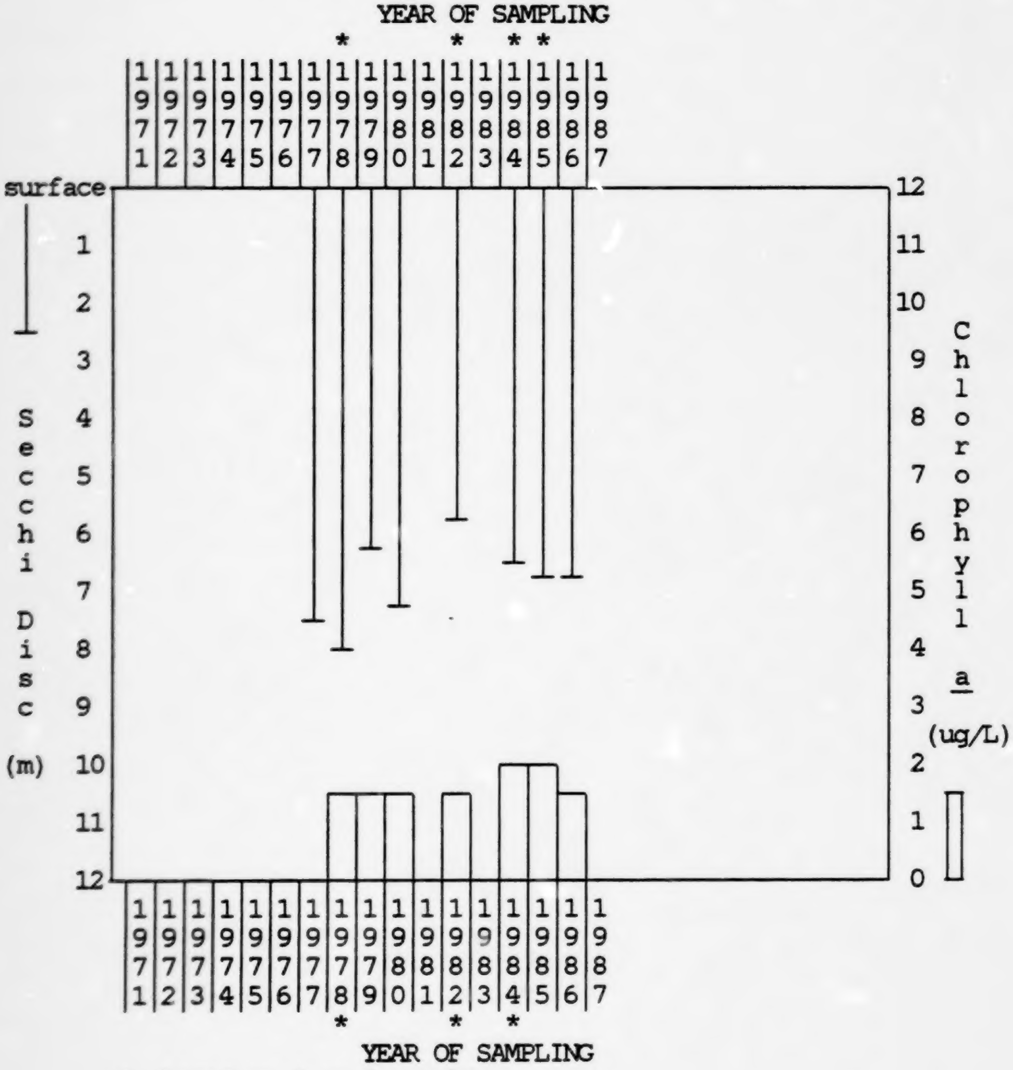
An excellent sampling program was conducted on Lake of Bays in 1986, with 10 sampling occasions per site.

Secchi disc readings were similar for all stations, with averages ranging from 5.8 m in Dwight Bay to 6.8 m in Trading Bay, indicating a high degree of water transparency.

Chlorophyll *a* concentrations were also similar at all stations, with averages ranging from 1.2 ug/L in Fairview Channel to 1.7 ug/L in Trading Bay, indicating low densities of suspended algae.

Water quality continues to be excellent in Lake of Bays in 1986, and is still typical of unenriched lake conditions.

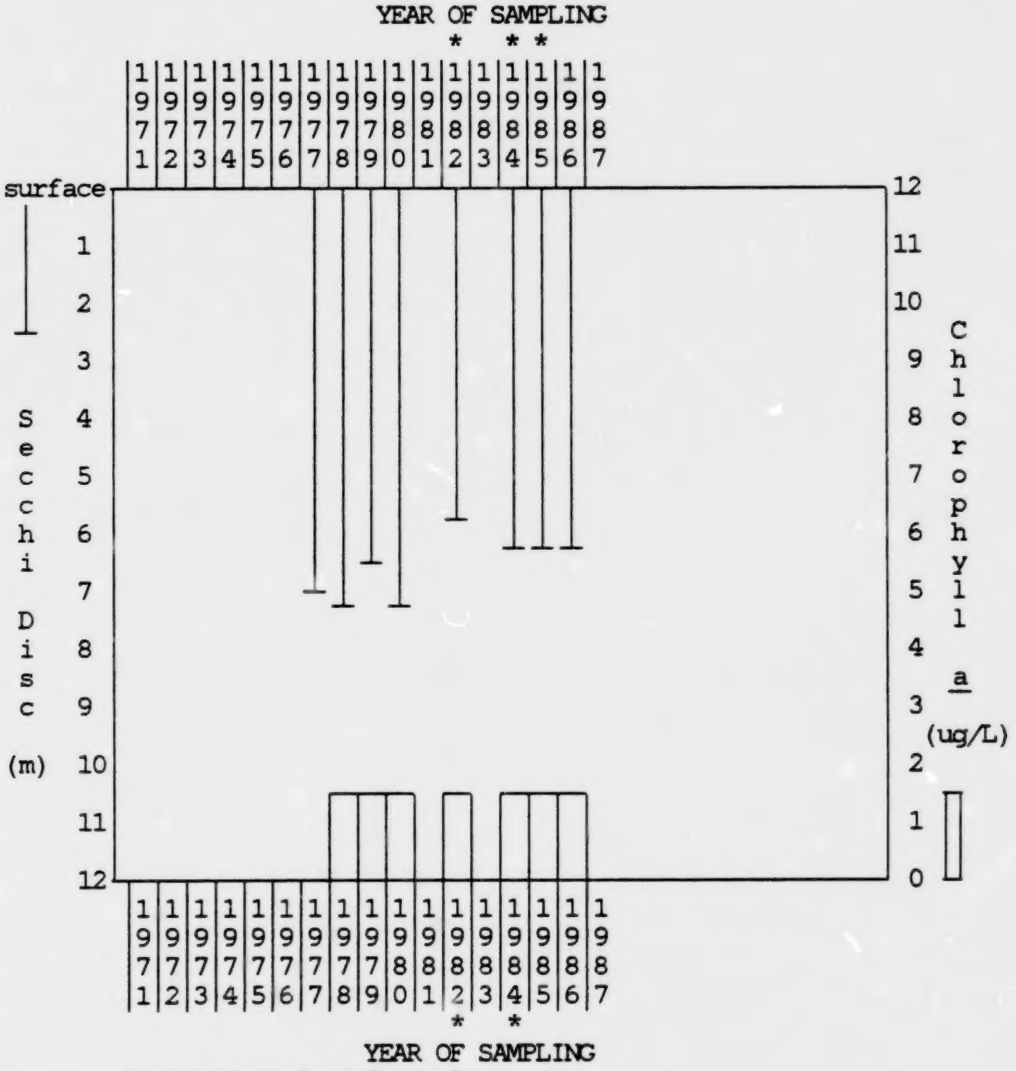
Figure 2 : Summary of results for Secchi disc (m) and chlorophyll a (ug/L) from Lake of Bays (Station 2 Trading Bay) from 1977 to 1986. Seasonal mean data (more than 6 sampling dates) unless otherwise specified. A minimum of 4 results was required for graphing.



* based on 4 or 5 results

We now have 8 years of data available for Trading Bay of Lake of Bays.
The degree of water clarity has been high for the period of record with Secchi disc readings ranging from 6 to 8 m.
Densities of suspended algae have been low since 1978.
There has been no overall change in water quality observed at this location since the start of sampling in 1977. Water quality continues to be excellent.
We hope that sampling continues in 1987.

Figure 2 : Summary of results for Secchi disc (m) and chlorophyll a (ug/L) from Lake of Bays (Station 5 East Bigwin) from 1977 to 1986. Seasonal mean data (more than 6 sampling dates) unless otherwise specified. A minimum of 4 results was required for graphing.



* based on 4 or 5 results

There are 8 years of available data for East Bigwin station on Lake of Bays.

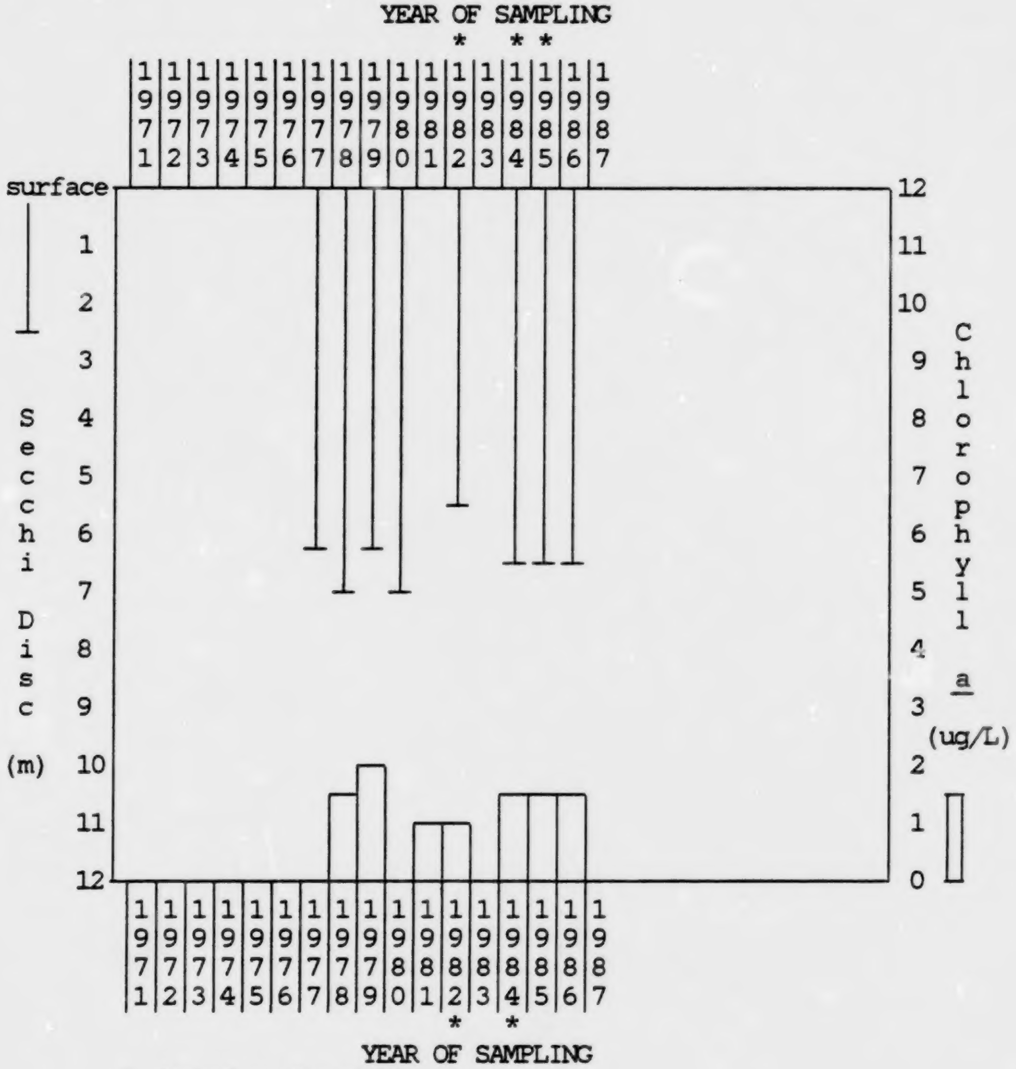
The degree of water clarity has been high since 1977 with Secchi disc readings in the range of 5.5 to 7.5 m.

Densities of suspended algae have been consistently low for the period of record.

Water quality at this location continues to be excellent.

We hope your participation in Self Help continues in 1987.

Figure 2 : Summary of results for Secchi disc (m) and chlorophyll a (ug/L) from Lake of Bays (Station 6 Haystack Bay) from 1977 to 1986. Seasonal mean data (more than 6 sampling dates) unless otherwise specified. A minimum of 4 results was required for graphing.



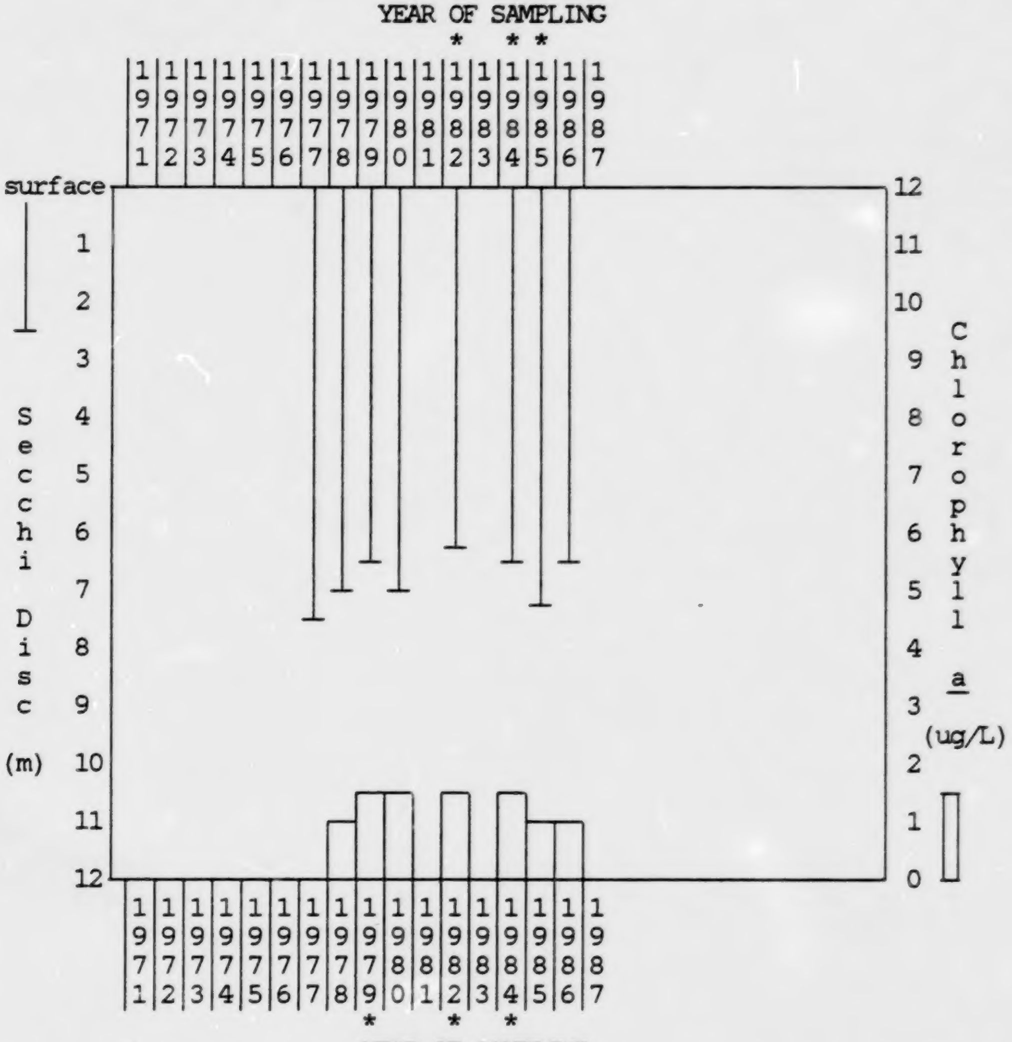
* based on 4 results

The 8 years of available data for Haystack Bay of Lake of Bays indicates that the degree of water clarity has been consistently high with Secchi disc readings ranging from 5.5 to 7 m.

Densities of suspended algae have been low for the period of record. Water quality has been excellent at this location with no apparent changes since sampling began in 1977.

We hope you continue in the Self Help Program in 1987.

Figure 2 : Summary of results for Secchi disc (m) and chlorophyll a (ug/L) from Lake of Bays (Station 7 Fairview Channel) from 1977 to 1986. Seasonal mean data (more than 6 sampling dates) unless otherwise specified. A minimum of 4 results was required for graphing.



* based on 4 results

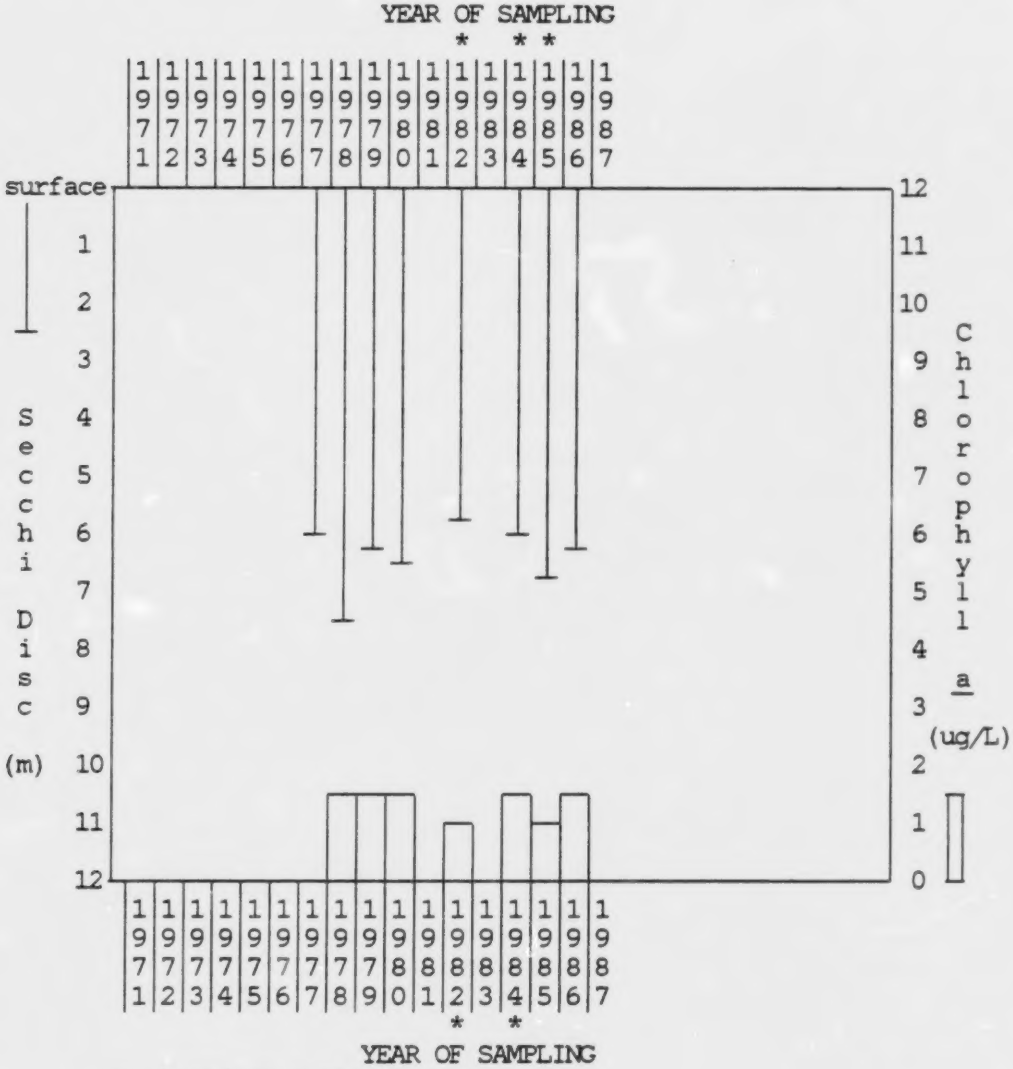
The 8 years of available information for Fairview Channel of Lake of Bays indicates that the water quality has been excellent for the period of record.

The degree of water clarity has been high with Secchi disc readings ranging from 6 to 7.5 m.

Densities of suspended algae have been consistently low since 1978.

We hope that you continue in the Self Help Program in 1987.

Figure 2 : Summary of results for Secchi disc (m) and chlorophyll a (ug/L) from Lake of Bays (Station 10 Gull Island) from 1977 to 1986. Seasonal mean data (more than 6 sampling dates) unless otherwise specified. A minimum of 4 results was required for graphing.



* based on 4 results

We now have 8 years of data available for the Gull Island station on Lake of Bays.

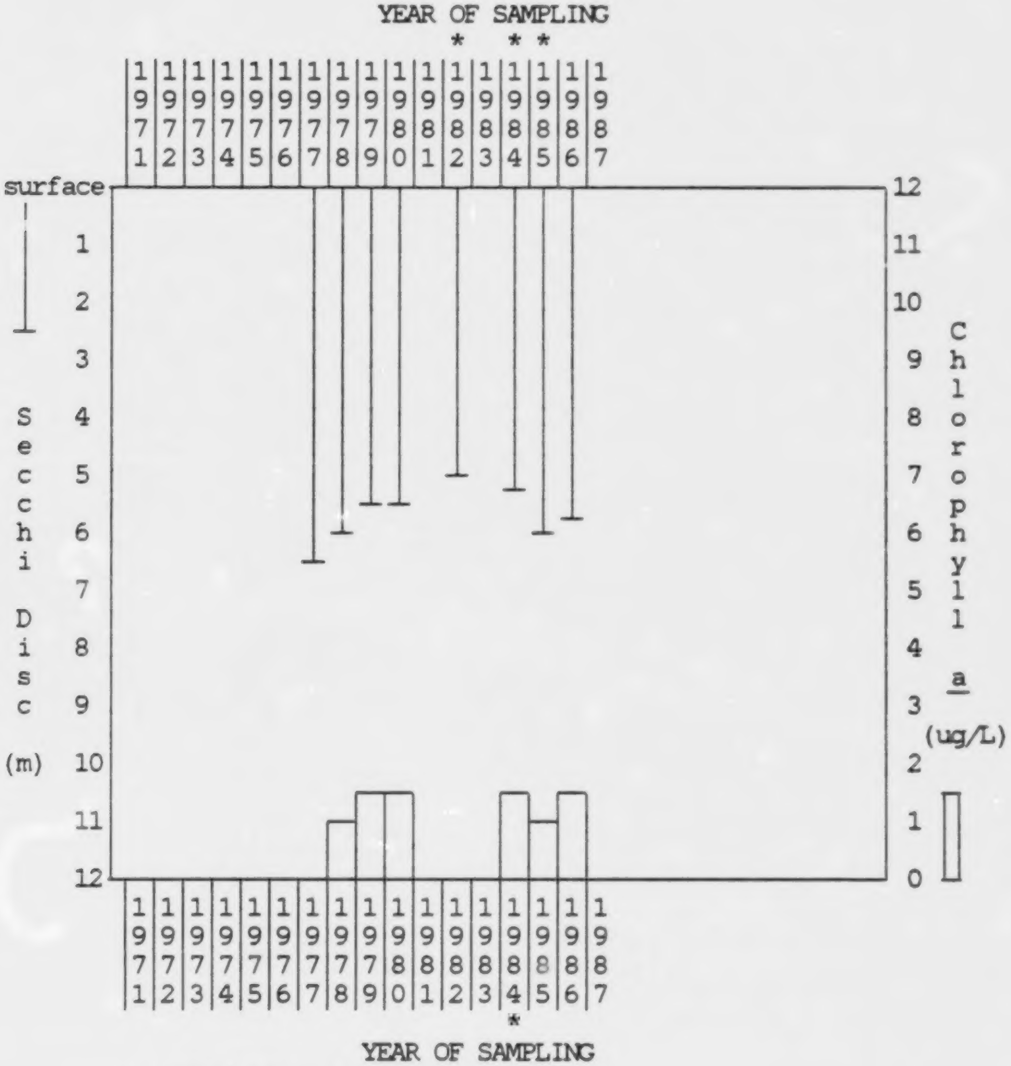
These results indicate that water quality has been excellent for the period of record with no overall changes observed.

The degree of water clarity has been high with average Secchi disc readings in the range of 5.5 to 7.5 m.

Densities of suspended algae have been low since 1978.

We hope that sampling continues in 1987.

Figure 2 : Summary of results for Secchi disc (m) and chlorophyll $\underline{a}$ (ug/L) from Lake of Bays (Station 12 Dwight Bay) from 1977 to 1986. Seasonal mean data (more than 6 sampling dates) unless otherwise specified. A minimum of 4 results were required for graphing.



* based on 4 or 5 results

We have 8 years of data available for Dwight Bay of Lake of Bays. This information indicates that the degree of water clarity has been high for the period of record but not as high as other stations on this lake. Average Secchi disc readings have been within the range of 5 to 6.5 m.

Densities of suspended algae have been low since 1978.

Water quality in Dwight Bay continues to be very good with no overall changes observed for the period of record.

We hope you continue sampling in 1987.

LAKE SCUGOG

SCUGOG TOWNSHIP

REGIONAL MUNICIPALITY OF DURHAM

Table 1: Secchi Disc (m) and chlorophyll a (ug/L) data collected from Lake Scugog in 1986

Station	Williams Point (S-13)	
Date	S.D.	Chl.a
July 7	0.6	11.7
July 14	0.7	8.8
July 21	0.7	2.6
July 28	0.7	12.5
Aug 4	0.7	10.4
Aug 11		15.0
Aug 18	0.9	7.2
Aug 27	0.8	16.7
Sept 2	0.8	NSS
	-----	-----
	0.7	10.6
	-----	-----

NSS - No suitable sample

In 1986, sampling on Lake Scugog was done on 9 occasions.
Secchi disc readings were low, and averaged 0.7 m, indicating a very low degree of water transparency.
Chlorophyll a levels were high, averaging 10.6 ug/L, indicating high densities of suspended algae.
Based on these results, Lake Scugog would be considered enriched.

FIGURE 1: The relationship between Secchi disc and chlorophyll a for Lake Scugog in 1986 and a number of recreational lakes in Central Region. All data are seasonal averages.

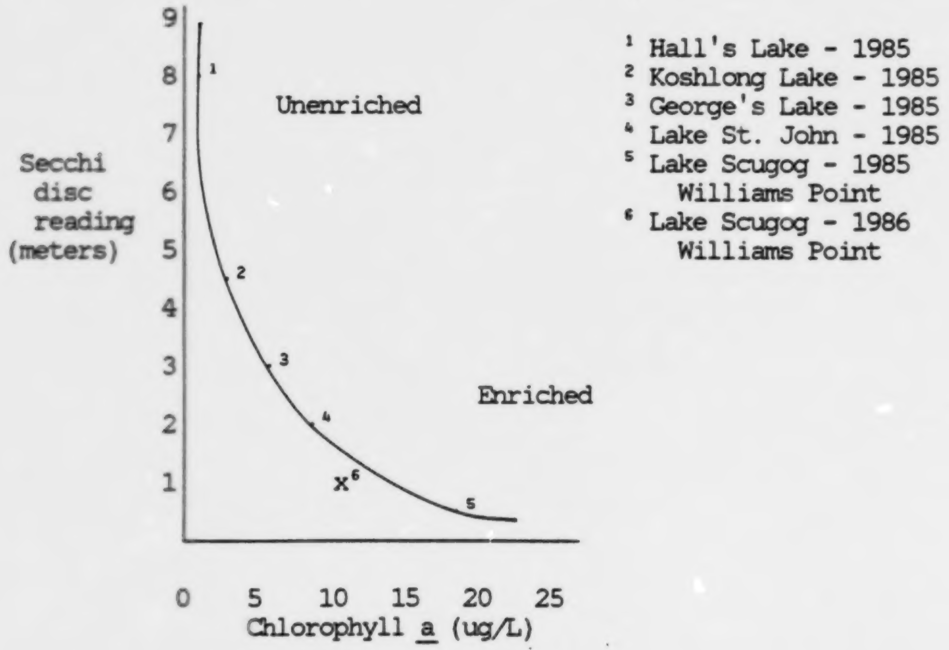
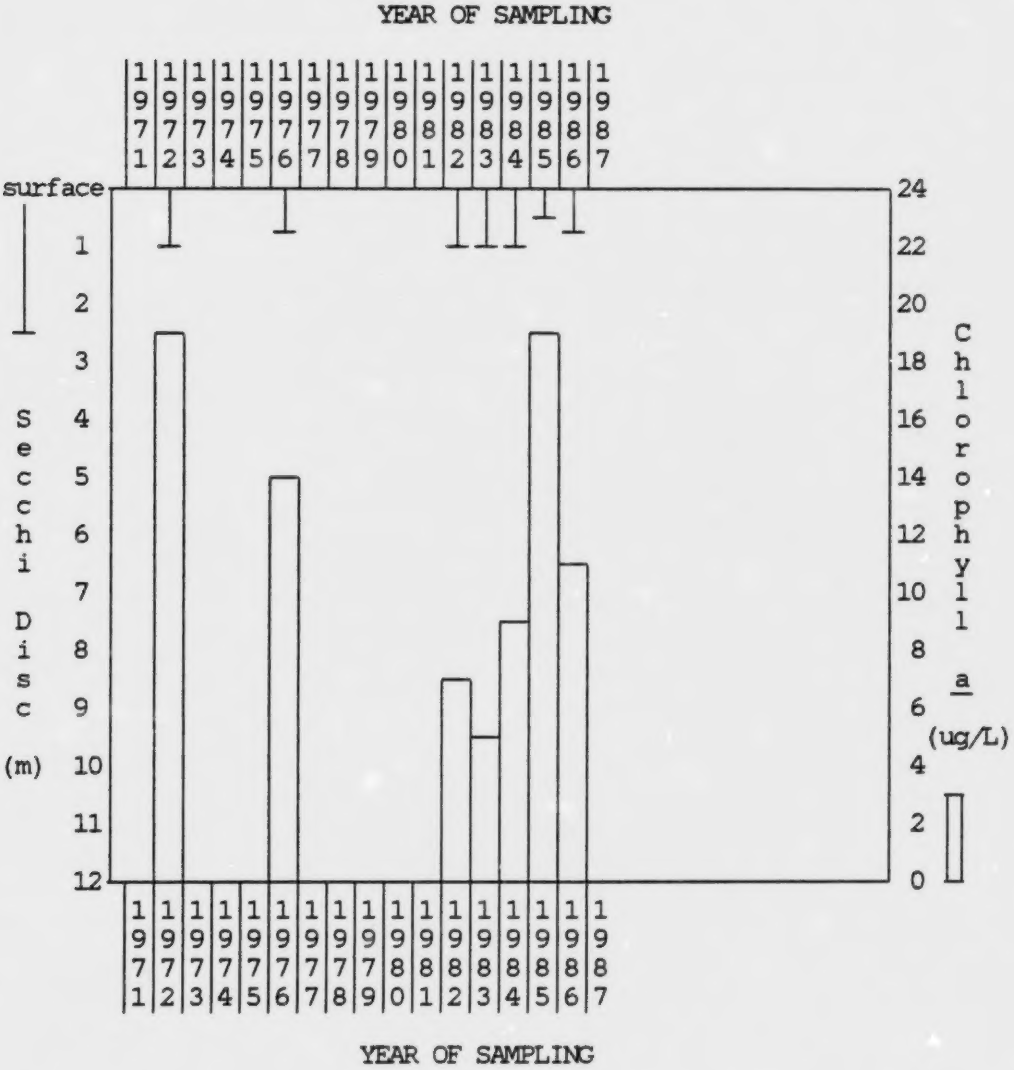


Figure 2 : Summary of results for Secchi disc (m) and chlorophyll a (ug/L) from Lake Scugog (William's Point) from 1972 to 1986. Seasonal mean data (more than 6 sampling dates) only. A minimum of 4 results was required for graphing.



The 8 years of data available for Williams Point of Lake Scugog indicate that the degree of water clarity has been consistently low and densities of suspended algae have been high with frequent blooms. These conditions are typical of very enriched lake conditions. We hope that sampling continues in 1987.

LAKE ST. JOHN

RAMA TOWNSHIP

COUNTY OF SIMCOE

Table 1: Secchi Disc (m) and chlorophyll a (ug/L) data collected from Lake St. John in 1986

Station	North End	
Date	S.D.	Chl.a
May 25	4.0	L 0.9
June 22	2.5	3.4
July 5	2.5	5.7
July 27	1.25	18.5
Aug 9	0.75	20.5
Aug 24	0.50	49.9
	-----	-----
	1.9	16.5
	-----	-----

L - Less than

A good sampling program was conducted on Lake St. John in 1986 with sampling on 6 occasions between May 25 and Aug 24. Secchi disc readings ranged from 0.5 m to 4.0 m and averaged 1.9 m, showing a decrease in water transparency through July and August.
Chlorophyll a concentrations showed a corresponding increase in July and August, ranging from less than 0.9 ug/L to 49.9 ug/L and averaging 16.5 ug/L.
Based on these results, Lake St. John would be considered enriched, with algae densities increasing towards the late summer.

FIGURE 1: The relationship between Secchi disc and chlorophyll a for Lake St. John in 1986 and a number of recreational lakes in Central Region. All data are seasonal averages.

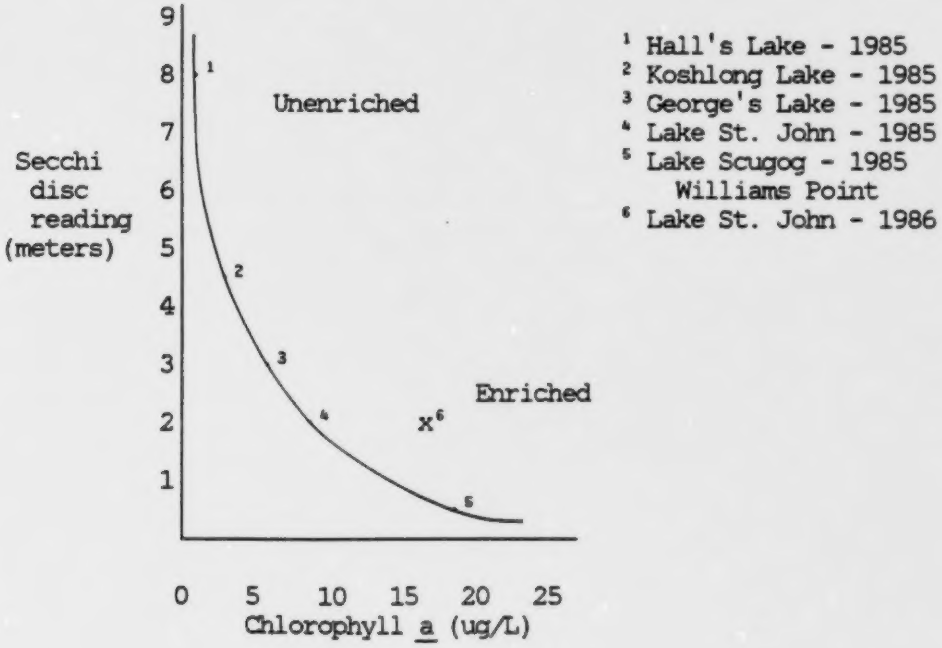
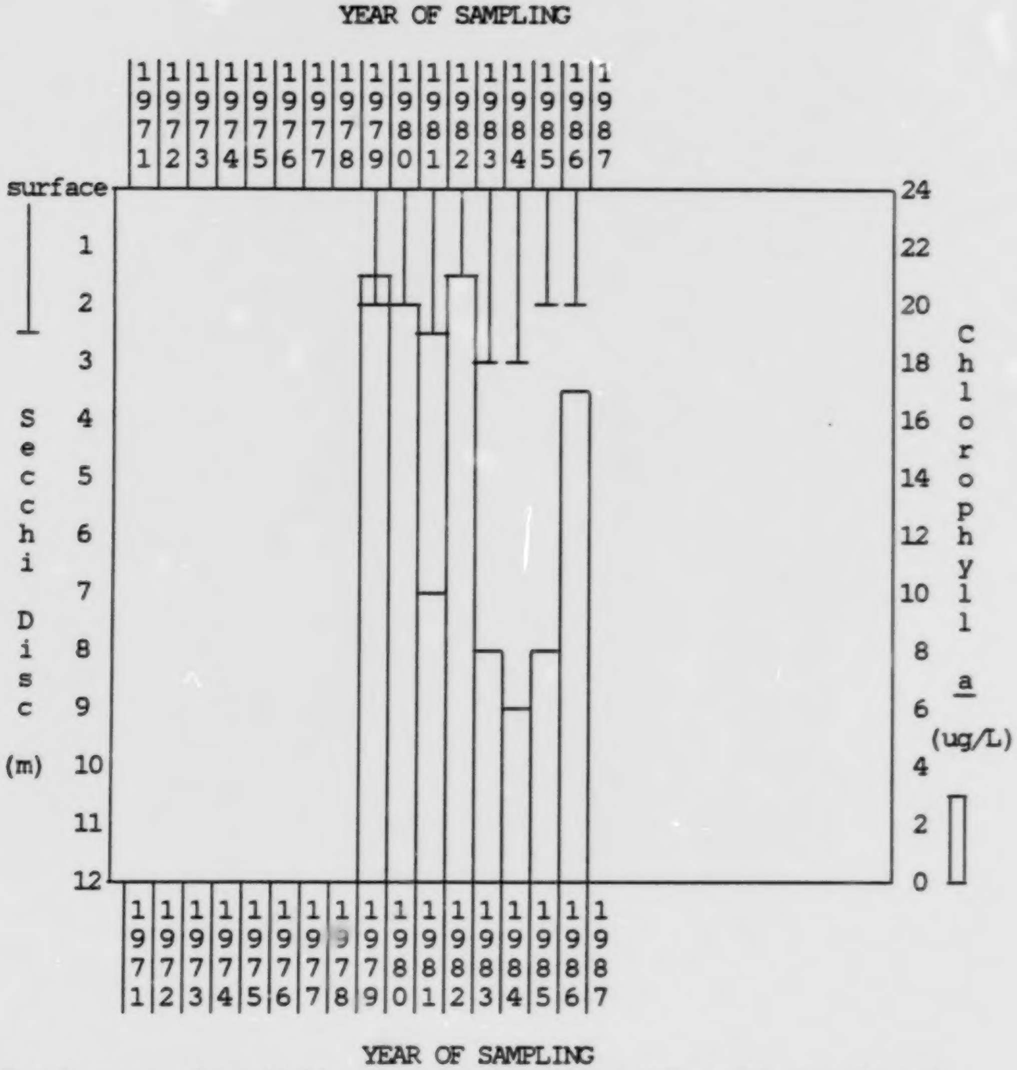


Figure 2 : Summary of results for Secchi disc (m) and chlorophyll a (ug/L) from Lake St. John from 1979 to 1986. Seasonal mean data (more than 6 sampling dates) only. A minimum of 4 results was required for graphing.



The 8 years of available data from Lake St. John indicates that the degree of water clarity has been consistently low and the densities of suspended algae have been high with frequent algae blooms.

These characteristics reflect enriched lake conditions. In 1984 and 1985 densities of suspended algae were somewhat lower than in other years.

We hope you continue sampling in 1987.

LEECH LAKE

OAKLEY WARD
TOWN OF BRACEBRIDGE

DISTRICT MUNICIPALITY OF MUSKOKA

Table 1: Secchi Disc (m) and chlorophyll a (ug/L) data collected from Leech Lake in 1986

Station Date	North Bay S.D.	 Chl.a	East Bay S.D.	 Chl.a	West Bay S.D.	 Chl.a
June 15	3.0	4.3	3.75	4.3	3.25	3.4
June 29	3.0	4.0	3.0	2.9	3.25	3.6
July 6	3.75	3.2	4.0	2.6	3.75	4.2
July 27	5.5	1.0	6.0	1.8	5.5	2.0
Aug 10	5.5	2.3	5.5	2.4	5.75	2.1
Aug 17	5.5	1.9	5.5	1.7	5.75	1.9
Sept 1	5.0	3.5	5.25	3.4	5.0	4.8
Sept 9	4.25	2.9	4.25	2.8	4.75	2.8
Sept 14	4.75	2.7	4.5	2.7	4.5	2.6
	4.5	2.8	4.9	2.7	4.6	3.0

An excellent sampling program was done again on Leech Lake in 1986, with sampling done on 9 occasions. The degree of water transparency was moderately high at all stations, with average Secchi disc readings ranging from 4.5 to 4.9 m. Chlorophyll a concentrations were also similar, ranging from 2.7 to 3.0 ug/L, indicating moderate densities of suspended algae. Based on these results, Leech Lake would be considered moderately enriched.

FIGURE 1: The relationship between Secchi disc and chlorophyll a for Leech Lake in 1986 and a number of recreational lakes in Central Region. All data are seasonal averages.

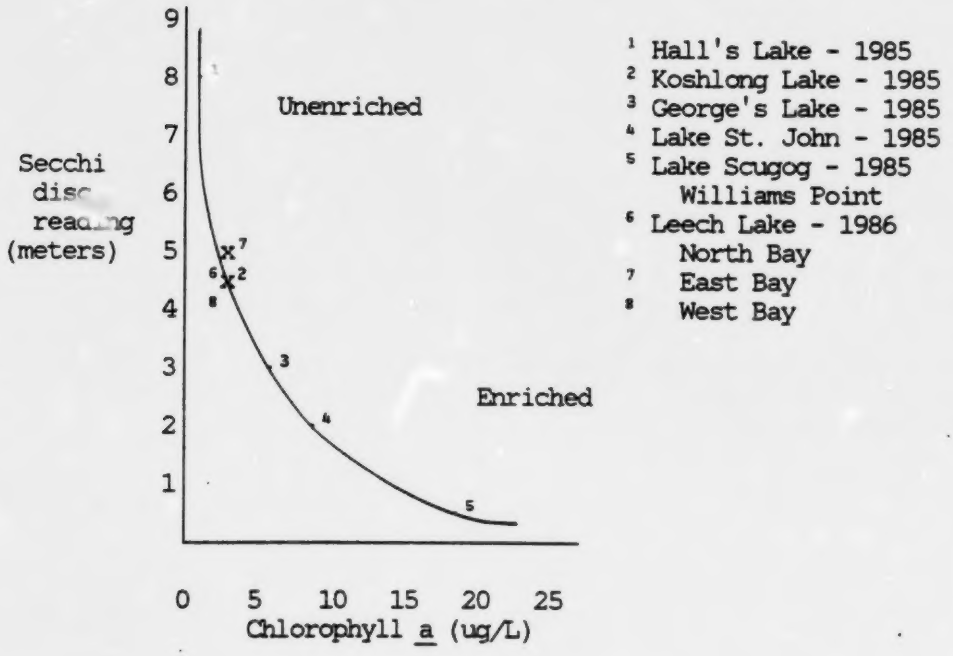
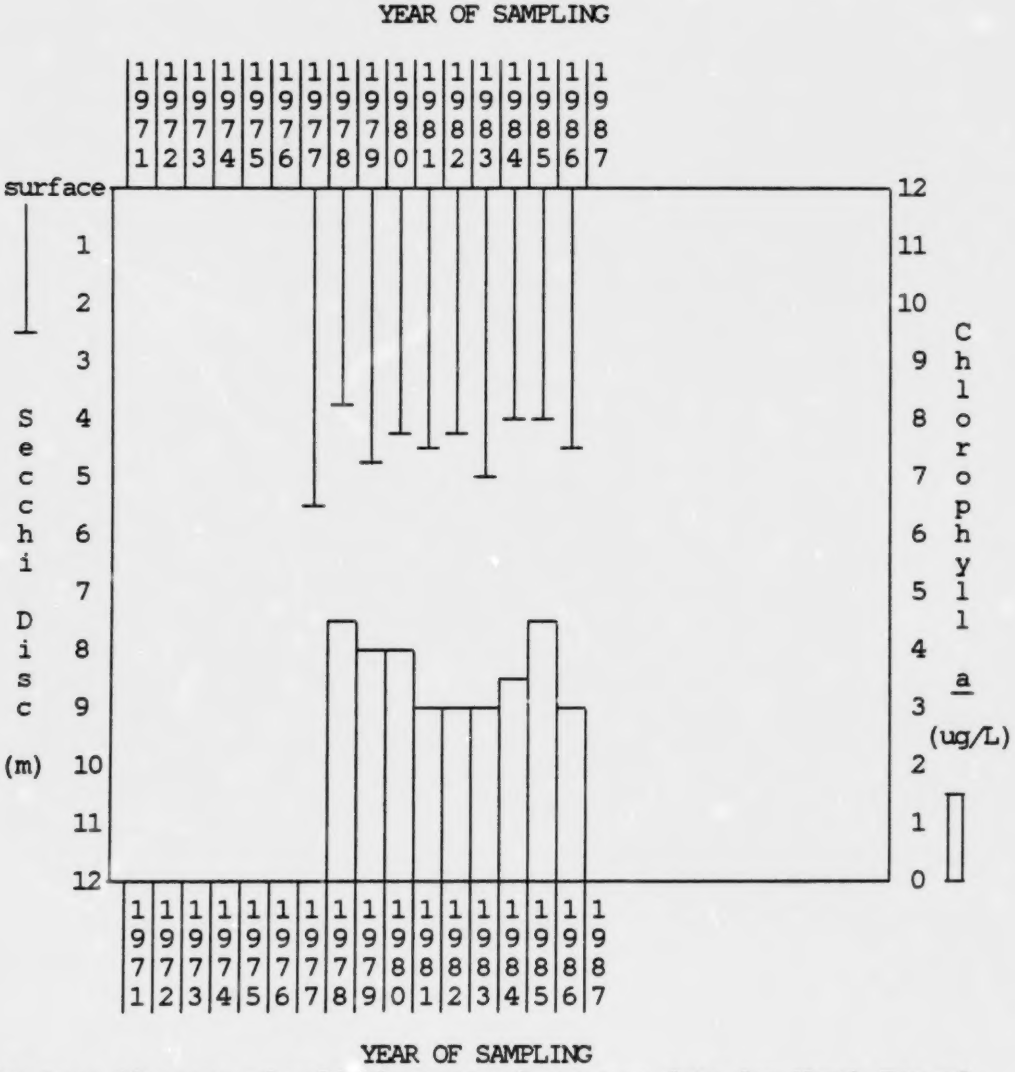


Figure 2 : Summary of results for Secchi disc (m) and chlorophyll a (ug/L) from Leech Lake (North Bay) from 1977 to 1986. Seasonal mean data (more than 6 sampling dates) only.



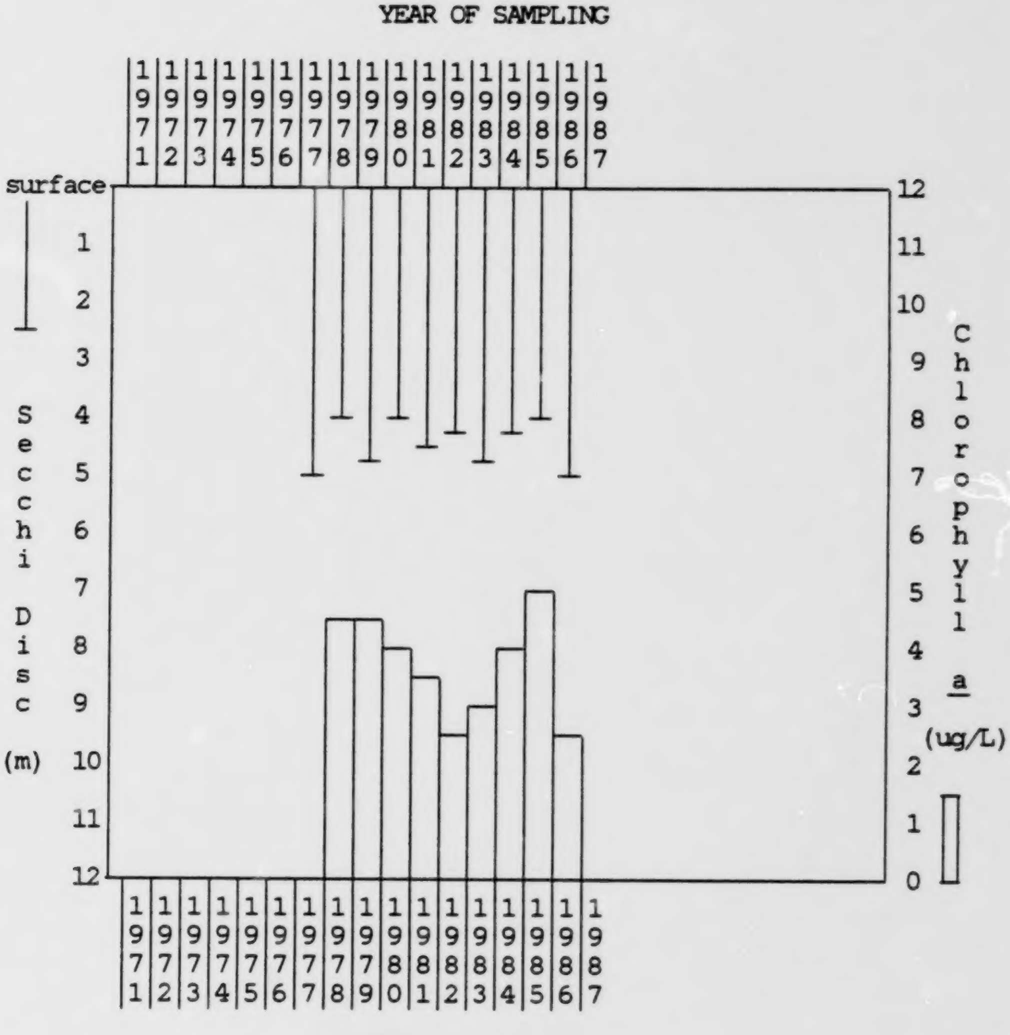
We have 10 years of reliable seasonal average data for North Bay of Leech Lake.

The degree of water clarity has been moderately high for most of the period of record with occasions, such as 1977, when the clarity is high.

The densities of suspended algae have usually been moderately high, however, in 1978 and 1985 average chlorophyll a concentrations were high.

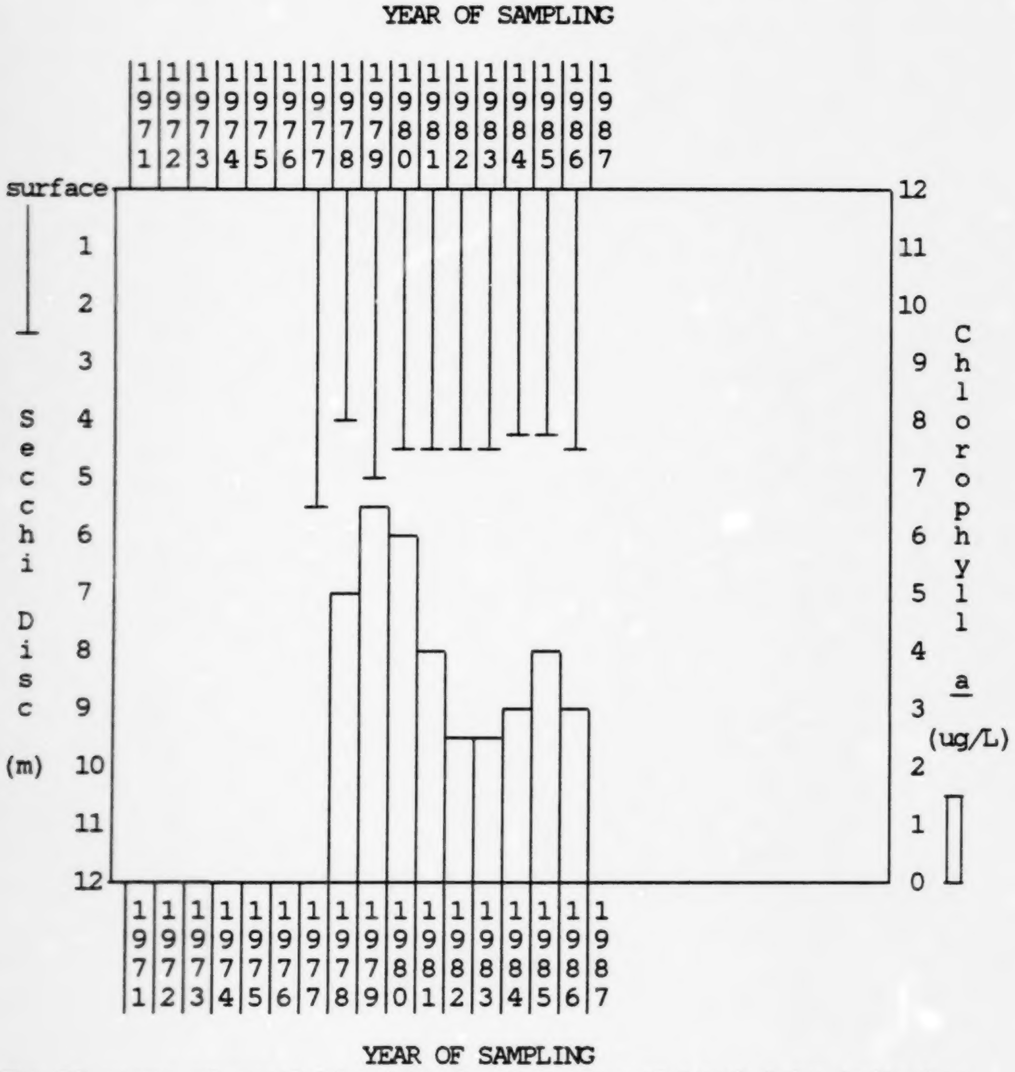
There has been no overall change in water quality at this location since 1977. We hope you continue your excellent participation in this program in 1987.

Figure 2 : Summary of results for Secchi disc (m) and chlorophyll a (ug/L) from Leech Lake (East Bay) from 1977 to 1986. Seasonal mean data (more than 6 sampling dates) only.



We now have 10 years of reliable seasonal average data available for East Bay of Leech Lake. These results indicate that there have been no overall changes in water quality at this location since 1977.
The degree of water clarity has been moderately high for the period of record with Secchi disc readings ranging from 4 to 5 m.
Densities of suspended algae have fluctuated from moderately low in 1982 to high in 1978, 1979 and 1985. These results indicate that East Bay of Leech Lake can support periodically high densities of suspended algae.
We hope that sampling continues in 1987.

Figure 2 : Summary of results for Secchi disc (m) and chlorophyll a (ug/L) from Leech Lake (West Bay) from 1977 to 1986. Seasonal mean data (more than 6 sampling dates) only.



The 10 years of available data for West Bay of Leech Lake indicates moderately enriched conditions.

The degree of water clarity has been moderately high for most of the period of record with occasions when the clarity is high.

Densities of suspended algae fluctuate from moderately low to high, typical of moderately enriched conditions.

Based on the historical record of water quality, there has been no overall change in water quality at this location since 1977 but there is a higher degree of annual fluctuation particularly with chlorophyll a concentrations.

We hope that your excellent participation in this program continues in 1987.

LITTLE KENNISIS LAKE

HAVELOCK TOWNSHIP

COUNTY OF HALIBURTON

Table 1: Secchi Disc (m) and chlorophyll a (ug/L) data collected from Little Kennisis Lake in 1986

Station	Main	
Date	S.D.	Chl.a
July 6	4.5	1.5
July 20	5.0	1.8
Aug 4	4.5	1.9
Aug 10	4.5	1.5
Aug 17	5.5	2.0
Sept 1	4.5	3.3
	4.8	2.0

A good sampling program was conducted on Little Kennisis Lake in 1986, with sampling done on 6 occasions.
Secchi disc readings were fairly consistent throughout the summer, averaging 4.8 m, indicating a moderately high degree of water transparency.
Chlorophyll a concentrations ranged from 1.5 to 3.3 ug/L and averaged 2.0 ug/L, indicating moderately low densities of suspended algae.
Based on these results, Little Kennisis Lake would be considered borderline between moderately enriched and unenriched.

FIGURE 1: The relationship between Secchi disc and chlorophyll a for Little Kennisis Lake in 1986 and a number of recreational lakes in Central Region. All data are seasonal averages.

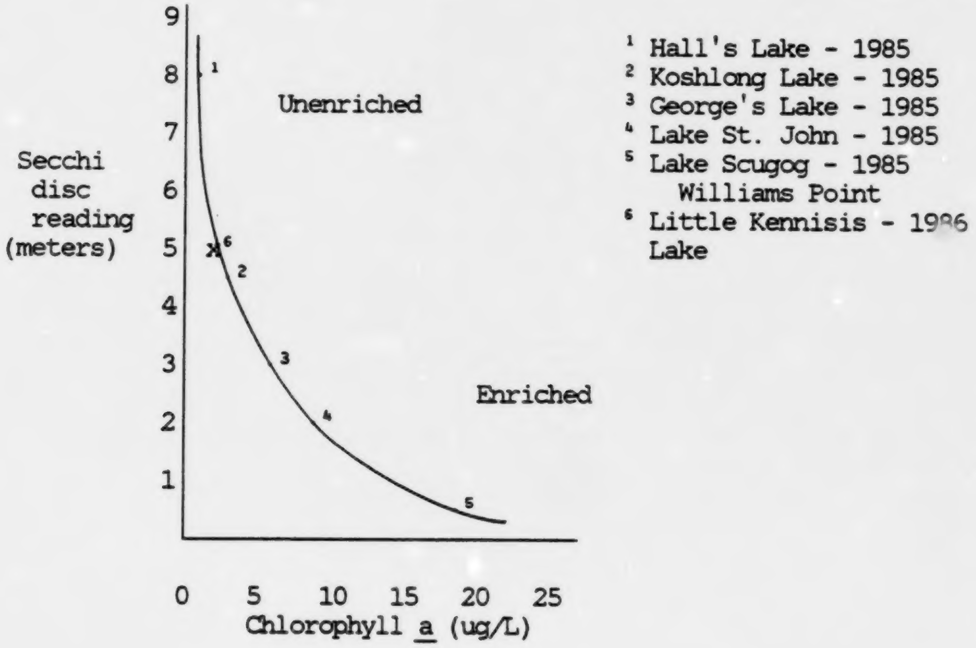
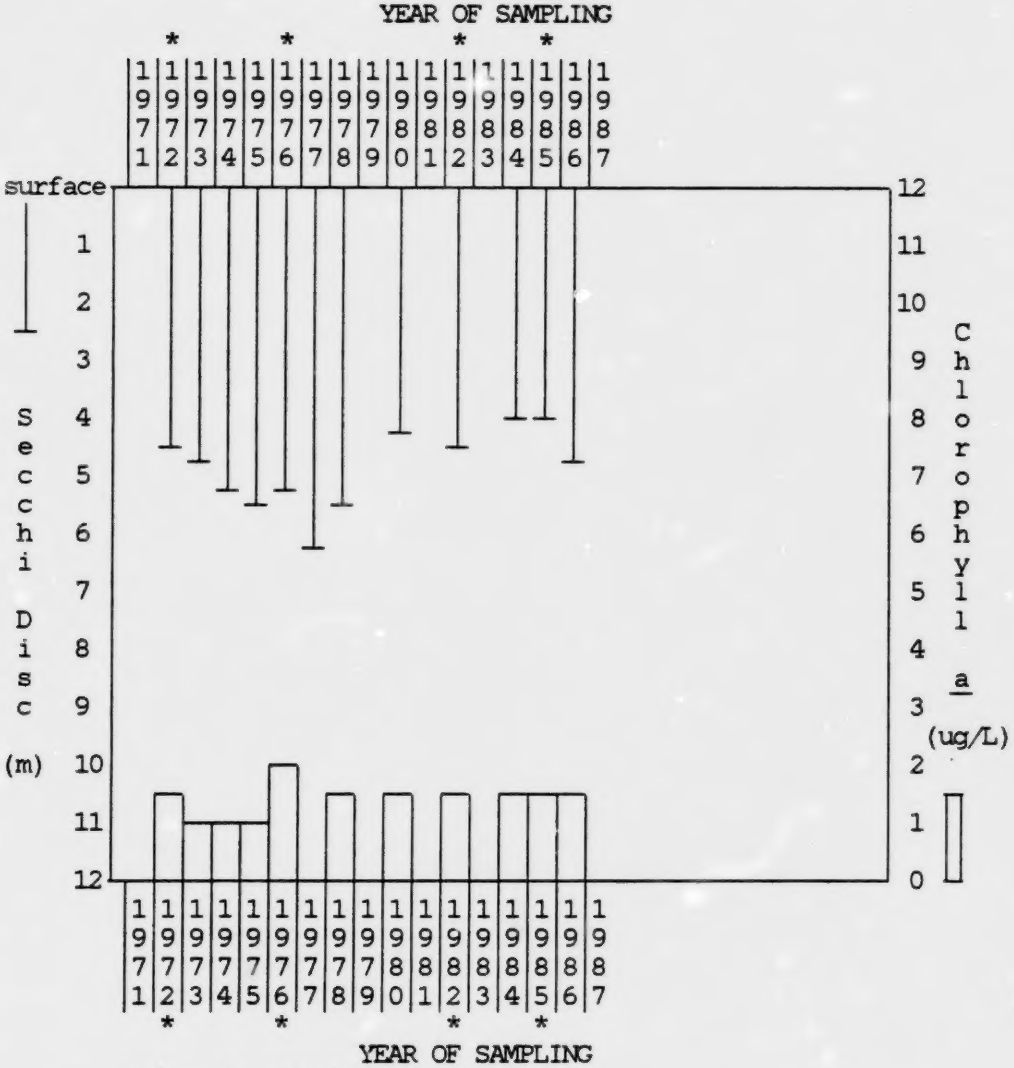


Figure 2 : Summary of results for Secchi disc (m) and chlorophyll a (ug/L) from Little Kennisis Lake from 1972 to 1986. Seasonal mean data (more than 6 sampling dates) unless otherwise specified. A minimum of 4 results was required for graphing.



* based on 4 or 5 results

A very good historical record of water quality has been established for Little Kennisis Lake with 12 years of data available.

The degree of water clarity has ranged from moderately high to high during the period of record. The highest average Secchi disc readings occurred from 1974 to 1978 and the clarity in recent years has been lower with average Secchi disc readings ranging from 4 to 5.0 m.

The reason for the apparent decline in water clarity in recent years is not apparent since the densities of suspended algae have remained low for most of the period of record.

We hope that sampling is continued on Little Kennisis Lake in 1987.

LITTLE LAKE

CRAMAHE TOWNSHIP

NORTHUMBERLAND COUNTY

Table 1: Secchi Disc (m) and chlorophyll a (ug/L) data collected from Little lake in 1986.

Station Date	Centre S.D.	 Chl.a
July 27	2.0	3.3
Aug 4	1.9	3.7
Aug 19	1.7	4.3
Sept 1	1.95	4.6
	1.9	4.0

Insufficient sampling was done on Little Lake in 1986 to obtain meaningful seasonal means, with only 4 sampling occasions.
The results obtained indicate a low degee of water clarity and moderately high densities of suspended algae, typical of enriched conditions.
If sampling is done in 1987, we recommend increasing the sampling frequency to at least 6 sampling occasions, for more meaningful results.

FIGURE 1: The relationship between Secchi disc and chlorophyll a for Little Lake in 1986 and a number of recreational lakes in Central Region. All data are seasonal averages.

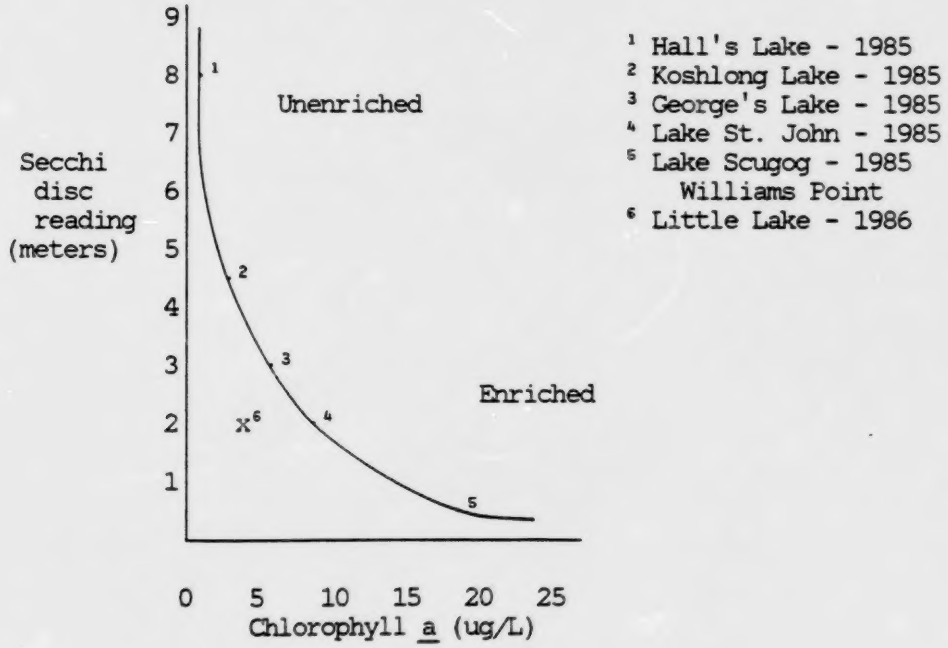
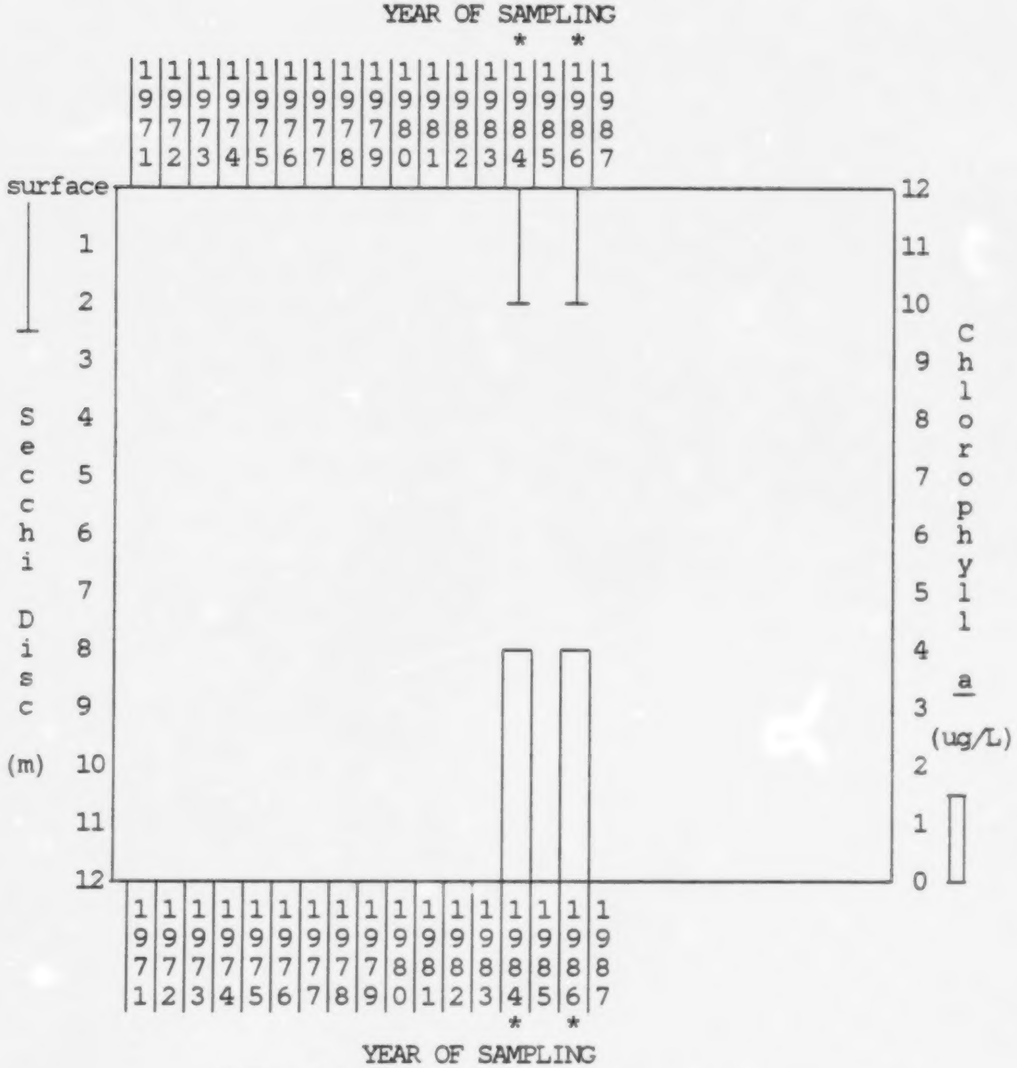


Figure 2 : Summary of results for Secchi disc (m) and chlorophyll a (ug/L) from Little Lake from 1984 and 1986.
Seasonal mean data (more than 6 sampling dates) only.
A minimum of 4 results were required for graphing.



* Based on 4 samples.

Since only 2 years of reliable data are available, we are unable to comment on the long-term water quality trends.
We hope that sampling is done in 1987 with increased sampling frequency.

LITTLE LAKE

WOOD WARD
TOWN OF GRAVENHURST

DISTRICT MUNICIPALITY OF
MUSKOKA

Table 1: Secchi Disc (m) and chlorophyll a (ug/L) data collected from Little in 1986.

Station Date	West Basin S.D.	Chl.a	East Basin S.D.	Chl.a
May 25	3.0	2.6	3.75	1.8
June 8	2.75	4.3	2.75	3.8
June 22	2.75	L 0.7	2.75	5.6
July 20	2.75	3.1	2.75	4.5
Aug 26	2.5	2.3	2.75	2.0
Sept 7	2.75	3.5	3.0	3.4
	2.75	2.75	3.0	3.5

L - Less than

A good sampling program was conducted on Little Lake in 1986, with sampling on 6 occasions. Secchi disc readings were similar at both stations, averaging 2.75 m in the West Basin and 3.0 m in the East Basin, indicating a moderately low degree of water transparency. Chlorophyll a concentrations averaged 2.75 ug/L at the West Basin and 3.5 ug/L at the East Basin indicating moderate densities of suspended algae. Based on these results, Little Lake would be considered borderline between moderately enriched and enriched

FIGURE 1: The relationship between Secchi disc and chlorophyll a for Little Lake in 1986 and a number of recreational lakes in Central Region. All data are seasonal averages.

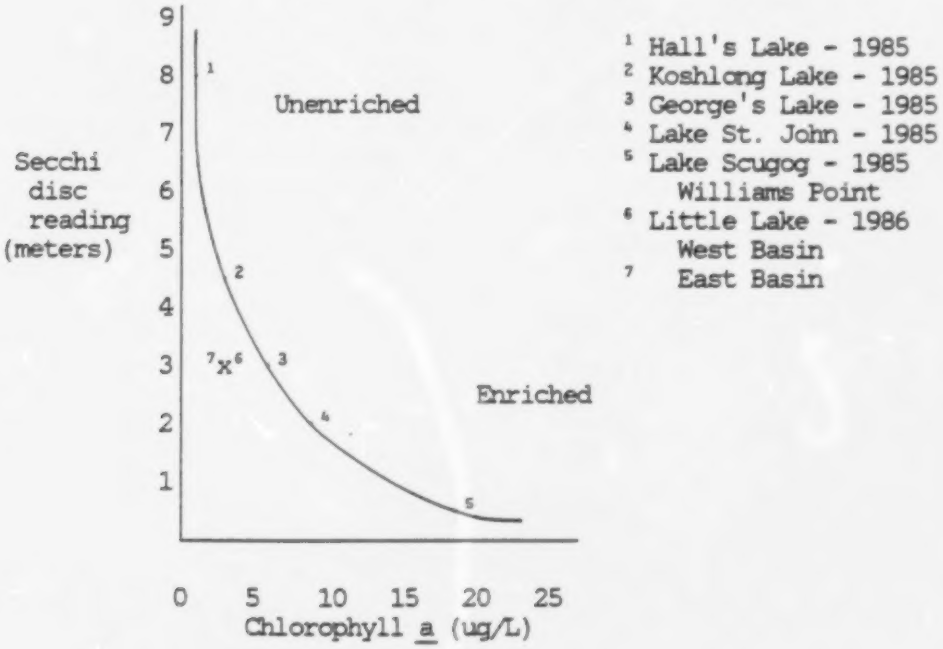
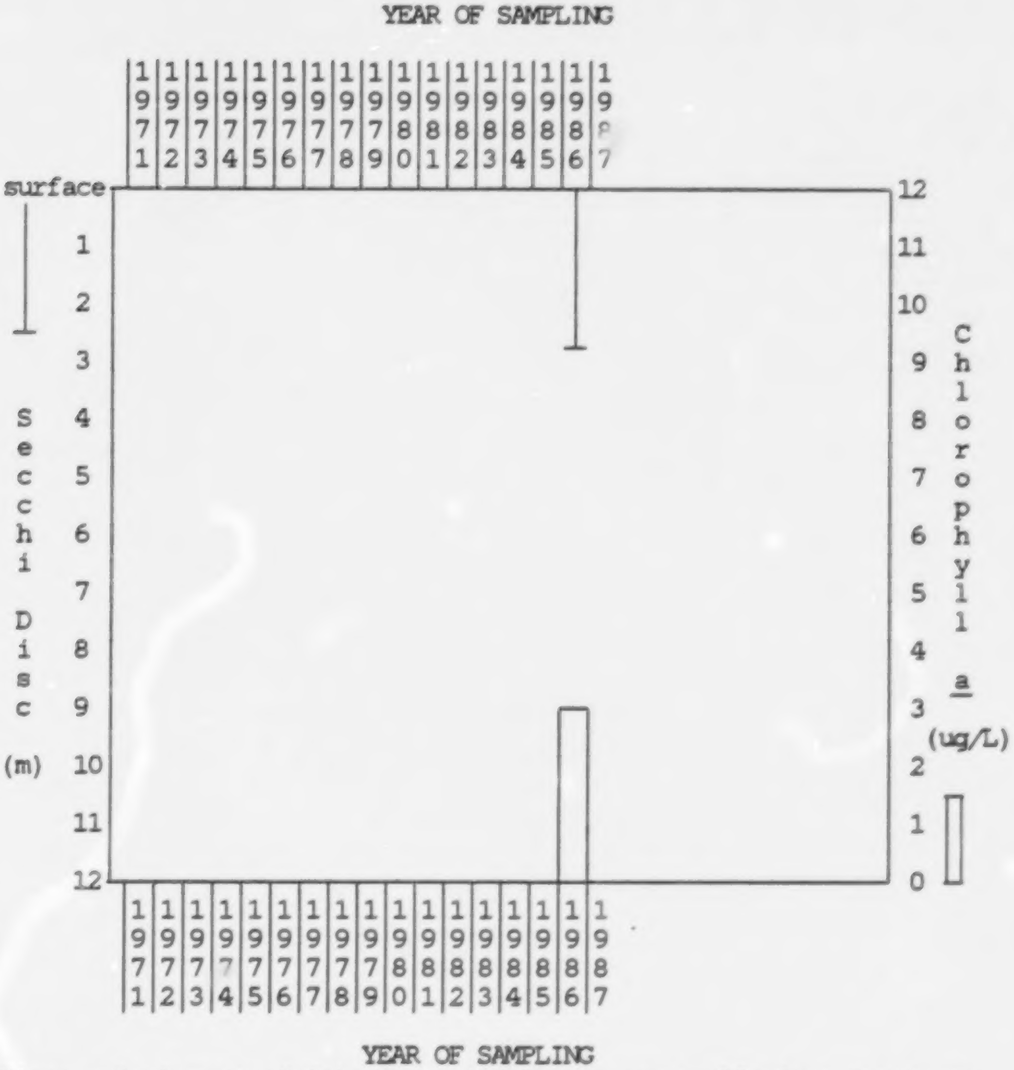


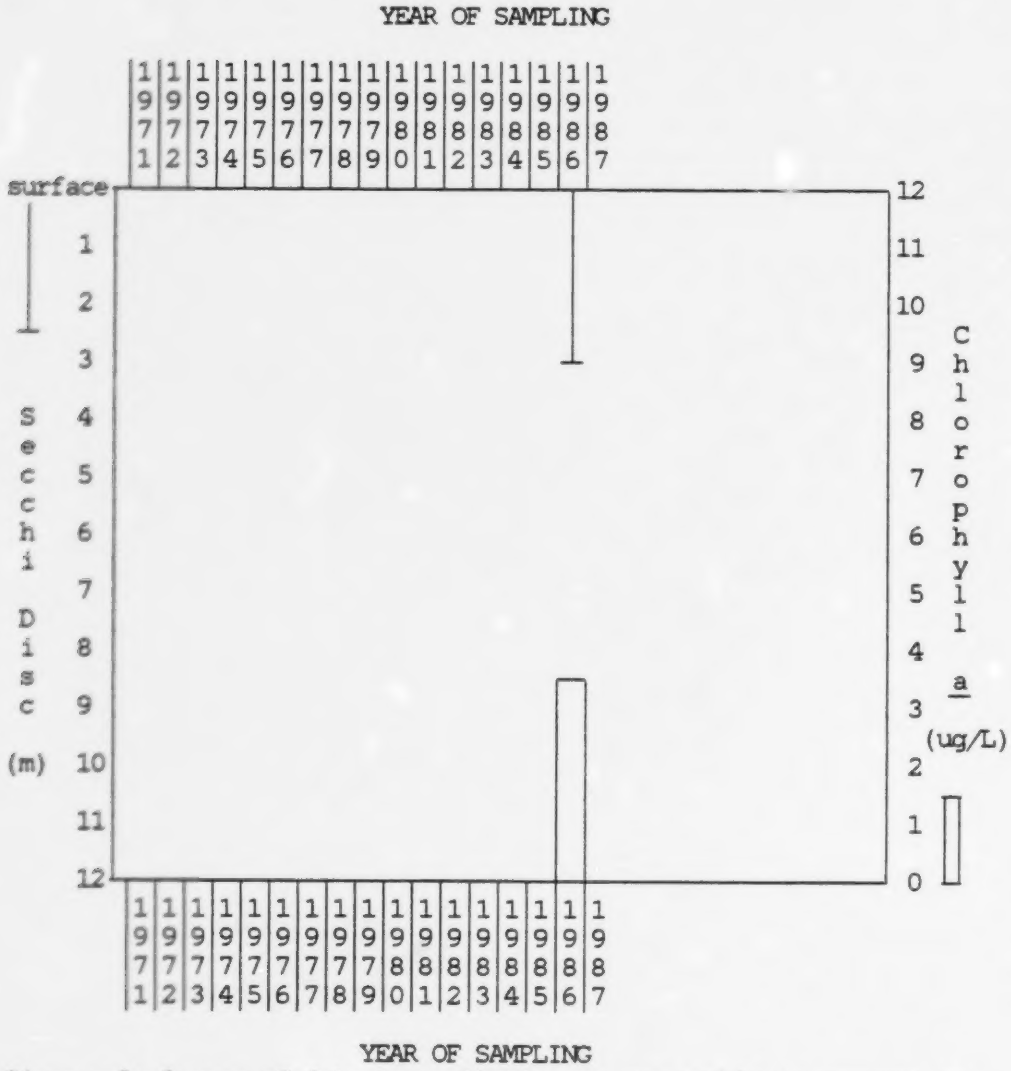
Figure 2 : Summary of results for Secchi disc (m) and chlorophyll a (ug/L) from Little Lake (West Basin) for 1986. Seasonal mean data (more than 6 sampling dates) only. A minimum of 4 results were required for graphing.



Since only 1 year of data is available, we are unable to comment on the long-term water quality trends.

We hope that sampling continues in 1987, in order to establish a continuous record of water quality for the West Basin of Little Lake.

Figure 2 : Summary of results for Secchi disc (m) and chlorophyll a (ug/L) from Little Lake (East Basin) for 1986. Seasonal mean data (more than 6 sampling dates) only. A minimum of 4 results were required for graphing.



Since only 1 year of data is available, we are unable to comment on the long-term water quality trends.
We hope that sampling continues in 1987, in order to establish a continuous record of water quality for the East Basin of Little Lake.

LITTLE STRAGGLE LAKE

HARCOURT TOWNSHIP

COUNTY OF HALIBURTON

Table 1: Secchi Disc (m) and chlorophyll a (ug/L) data collected from Little Straggle Lake in 1986

Station	Main	
Date	S.D.	Chl.a
July 1	2.1	2.0
Aug 4	3.6	9.2
Sept 5	3.9	1.6
Sept 15	4.2	1.7
Oct 13	5.8	L 1.0
	-----	-----
	3.9	3.1
	-----	-----

L - Less than

In 1986, sampling was done on Little Straggle Lake on 5 occasions. Secchi disc readings ranged from 2.1 to 5.8 m and averaged 3.9 m, indicating a moderate degree of water transparency. Chlorophyll a concentrations ranged from 1.0 to 9.2 ug/L and averaged 3.1 ug/L, indicating moderately low densities of suspended algae, with a bloom occurring in August. Based on these results, Little Straggle would be considered moderately enriched. If sampling continues in 1987, we recommend increasing the sampling frequency to at least 6 sampling occasions for a more reliable mean.

FIGURE 1: The relationship between Secchi disc and chlorophyll a for Little Straggle Lake in 1986 and a number of recreational lakes in Central Region. All data are seasonal averages.

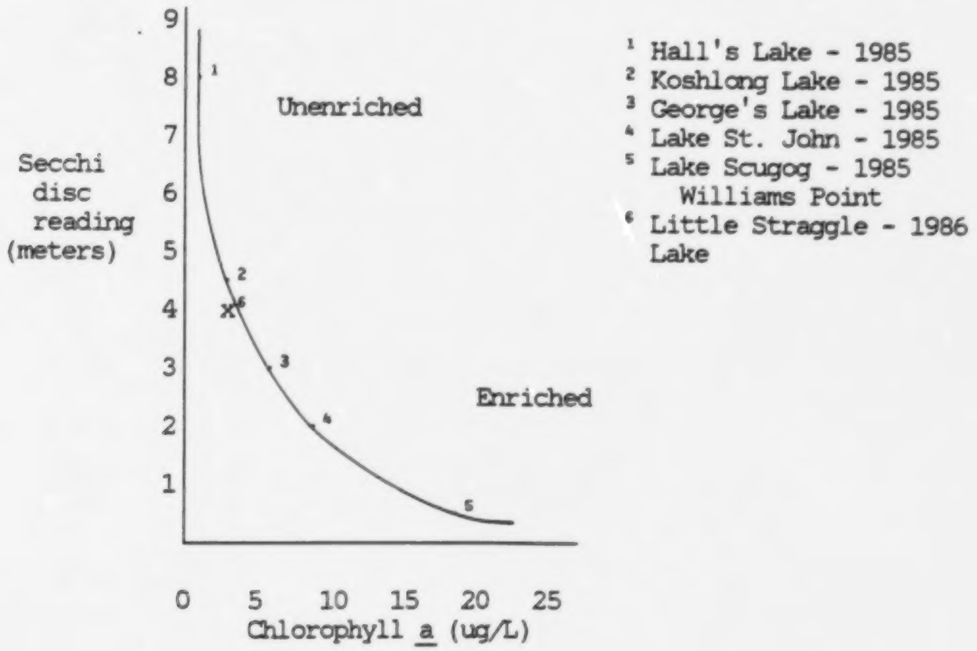
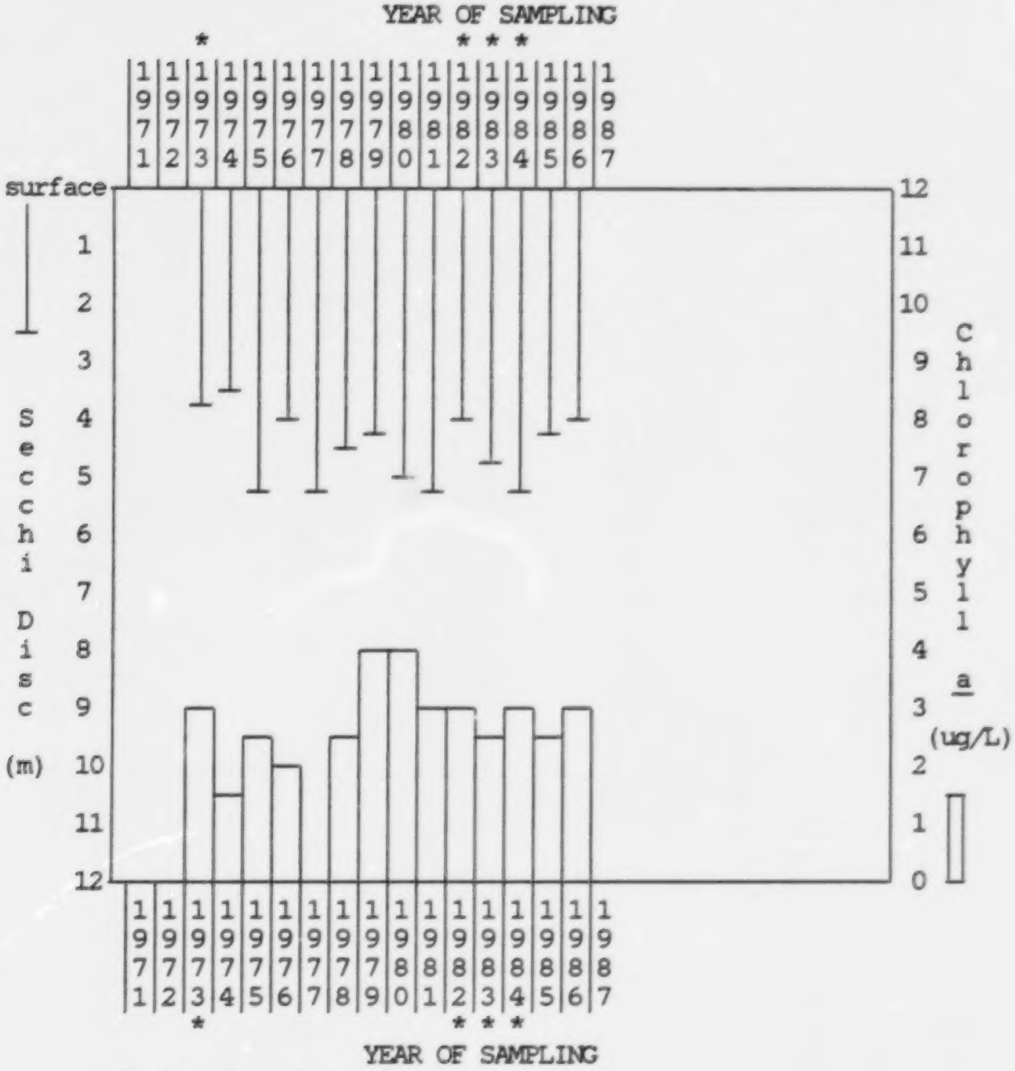


Figure 2 : Summary of results for Secchi disc (m) and chlorophyll a (ug/L) from Little Straggle Lake from 1973 to 1986. Seasonal mean data (more than 6 sampling dates) unless otherwise specified. A minimum of 4 results was required for graphing.



* based on 4 results

An excellent historical record of water quality has been established for Little Straggle Lake with 14 years of data.
These results indicate that there have been no changes in water quality since 1973.
The degree of water clarity has been moderately high for most of the period of record, fluctuating from year to year.
The densities of suspended algae have ranged from low to moderately high, indicative of moderately enriched conditions.
We hope that your participation in this program continues in 1987.

LONG LAKE

DUDLEY TOWNSHIP

COUNTY OF HALIBURTON

Table 1: Secchi Disc (m) and chlorophyll a (ug/L) data collected from Long Lake in 1986

Station	West	
Date	S.D.	Chl.a
May 25	5.0	1.9
July 20	5.0	7.6
Aug 4	5.0	3.7
Aug 10	5.5	3.9
Aug 17	7.0	8.5
Aug 24	6.0	9.3
Sept 1	5.0	2.8
	5.5	5.4

A good sampling program was done on Long Lake in 1986 with sampling on 7 occasions. Secchi disc readings were consistently high, ranging from 5.0 to 7.0 m and averaging 5.5 m. Chlorophyll a concentrations were variable, ranging from 1.9 to 9.3 ug/L and averaging 5.4 ug/L, indicating that low to high densities of suspended algae were present at different times during the summer. Based on these results, Long Lake would be considered moderately enriched with good water quality and periodic algae blooms.

FIGURE 1: The relationship between Secchi disc and chlorophyll a for Long Lake in 1986 and a number of recreational lakes in Central Region. All data are seasonal averages.

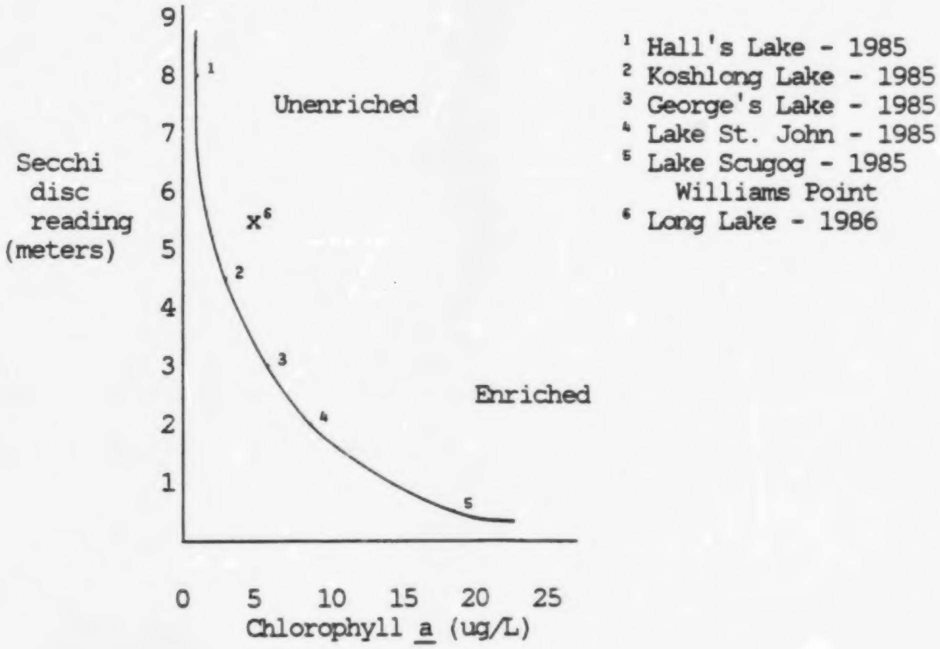
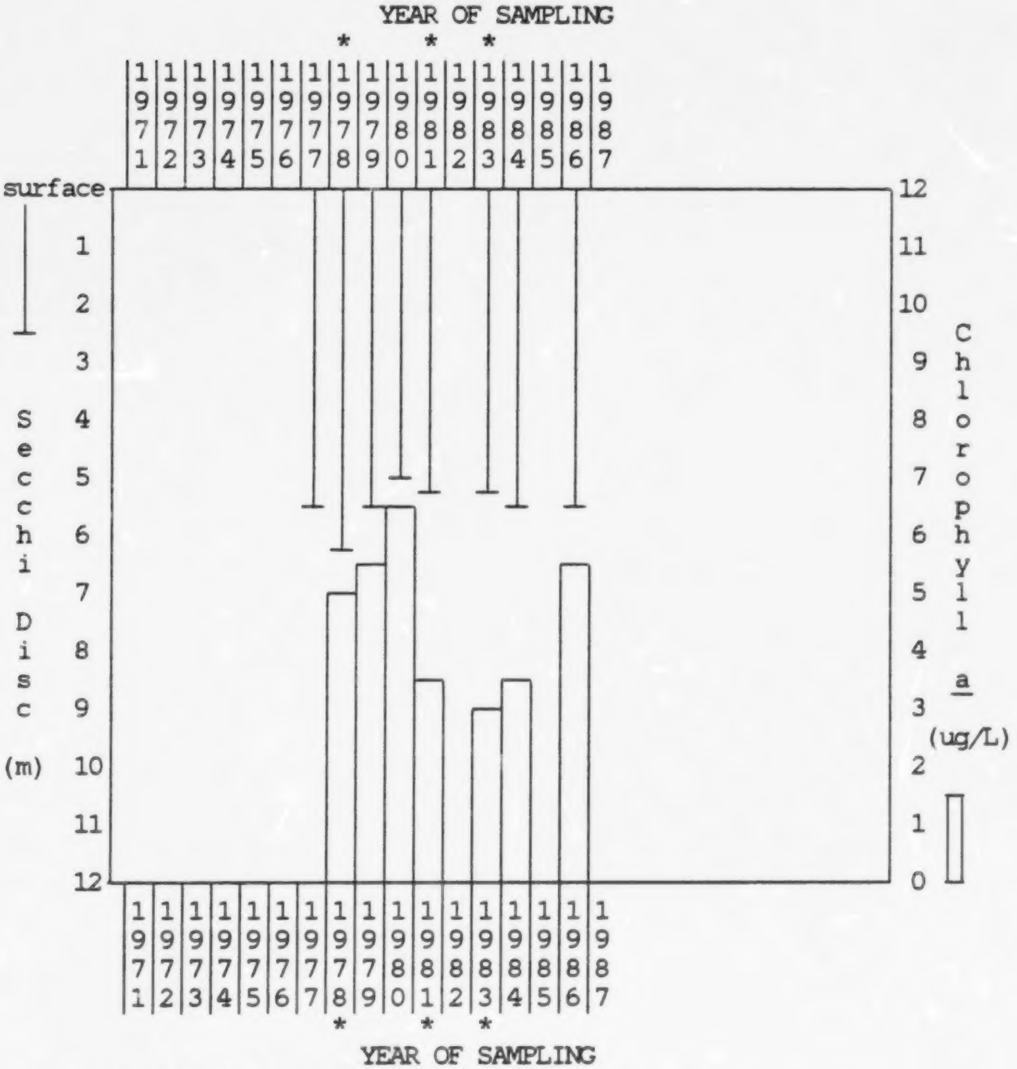


Figure 2 : Summary of results for Secchi disc (m) and chlorophyll a (ug/L) from Long Lake in Dudley Township from 1977 to 1986. Seasonal mean data (more than 6 sampling dates) unless otherwise specified. A minimum of 4 results was required for graphing.



* based on 4 or 5 results

The 8 years of available data for Long Lake in Dudley Township indicate that the degree of water clarity has been consistently high in spite of moderate to high densities of suspended algae.

This probably indicates that the suspended algae is concentrated at a depth below the Secchi disc depths.

In recent years, the densities of suspended algae have been lower than levels observed from 1978 to 1980, except in 1986, when the densities were higher again.

We hope that sampling continues in 1987 in order to monitor long-term changes in water quality.

LONG LAKE

HARCOURT PARK

COUNTY OF HALIBURTON

Table 1: Secchi disc (m) and chlorophyll a (ug/L) data collected from Long Lake in 1986.

Station	Main	
Date	S.D.	Chl.a
May 31	3.75	2.2
June 15	3.0	3.5
July 6	2.75	4.1
July 20	3.25	5.6
Aug 17	3.75	3.7
Aug 24	3.5	5.4
Sept 1	2.5	6.7
	3.2	4.5

A good sampling program was conducted on Long Lake in 1986, with 7 sampling occasions between May 31 and Sept 1. Secchi disc readings ranged from 2.5 to 3.75 m and averaged 3.2 m, indicating a moderate degree of water clarity. Chlorophyll a concentrations were moderate to high, ranging from 2.2 to 6.7 ug/L and averaging 4.5 ug/L. Based on these results, Long Lake would be considered borderline between moderately enriched and enriched.

FIGURE 1: The relationship between Secchi disc and chlorophyll a for Long Lake in 1986 and a number of recreational lakes in Central Region. All data are seasonal averages.

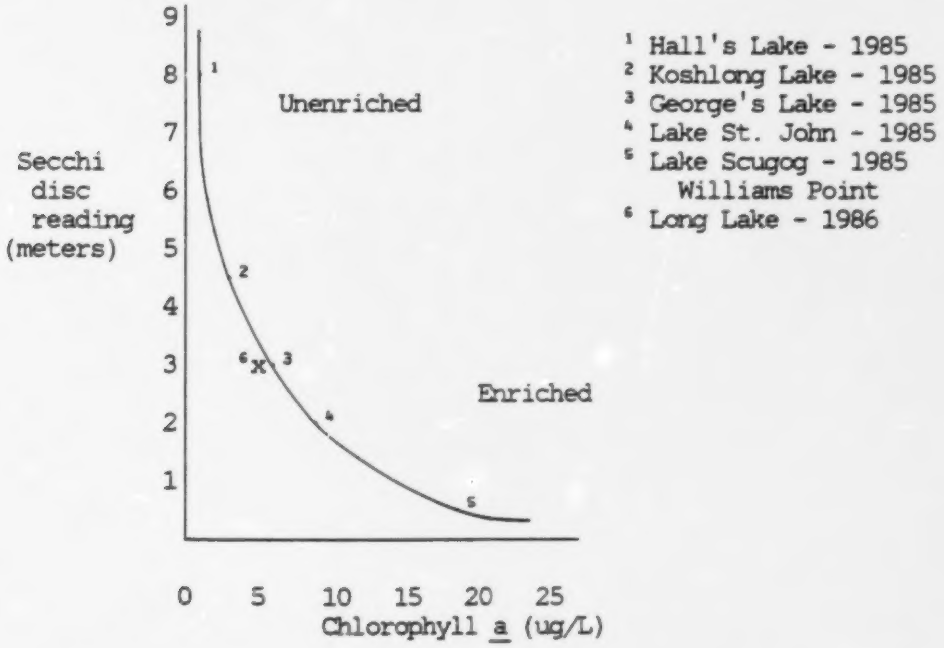
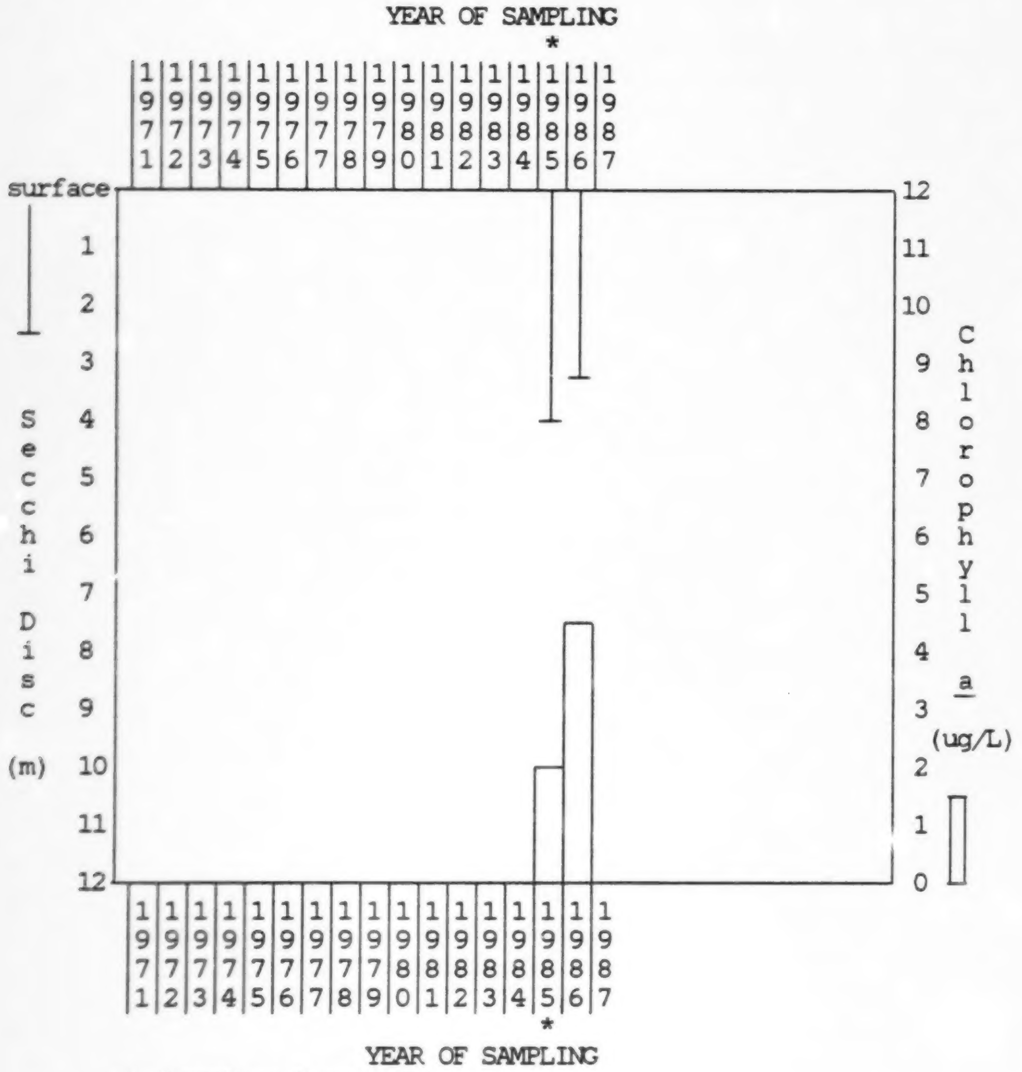


Figure 2 : Summary of results for Secchi disc (m) and chlorophyll a (ug/L) from Long Lake in Harcourt Park in 1985 and 1986. Seasonal mean data (more than 6 sampling dates) unless otherwise specified. A minimum of 4 results was required for graphing.



* based on 5 results

Since only 2 years of data are available for Long Lake, we are unable to comment on the long-term water quality trends.
We hope sampling continues in 1987 in order to establish a continuous record of water quality.

LOON LAKE

MONMOUTH TOWNSHIP

COUNTY OF HALIBURTON

Table 1: Secchi Disc (m) and chlorophyll a (ug/L) data collected from Loon lake in 1986

Station

Date	S.D.	Chl.a
Aug 25	4.5	1.5
Aug 28	NG	1.5
Aug 31	6.2	1.1
Sept 1	6.5	1.8
Sept 13	6.5	1.2
	-----	-----
	5.9	1.4
	-----	-----

NG - Not given

Loon Lake was sampled on 5 occasions in 1986. Secchi disc readings ranged from 4.6 to 6.5 m and averaged 5.9 m, indicating a high degree of water transparency.

Chlorophyll a concentrations were consistently low, ranging from 1.1 to 1.8 ug/L and averaging 1.4 ug/L, indicating low densities of suspended algae.

Based on the 1986 results, Loon Lake would be considered unenriched.

If sampling continues in 1987, we recommend increasing the frequency to at least 6 occasions if possible.

FIGURE 1: The relationship between Secchi disc and chlorophyll a for Loon Lake in 1986 and a number of recreational lakes in Central Region. All data are seasonal averages.

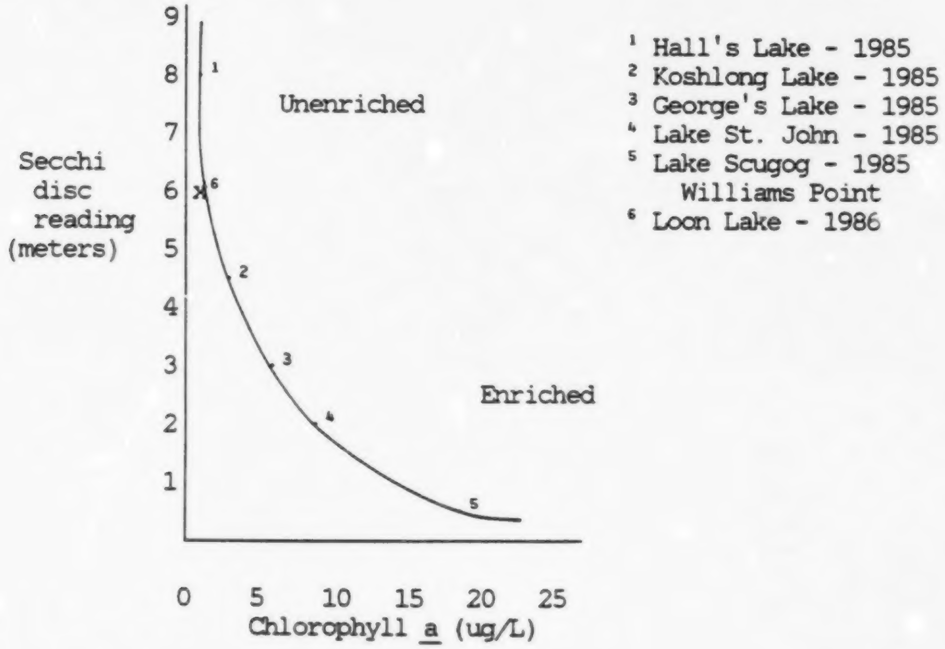
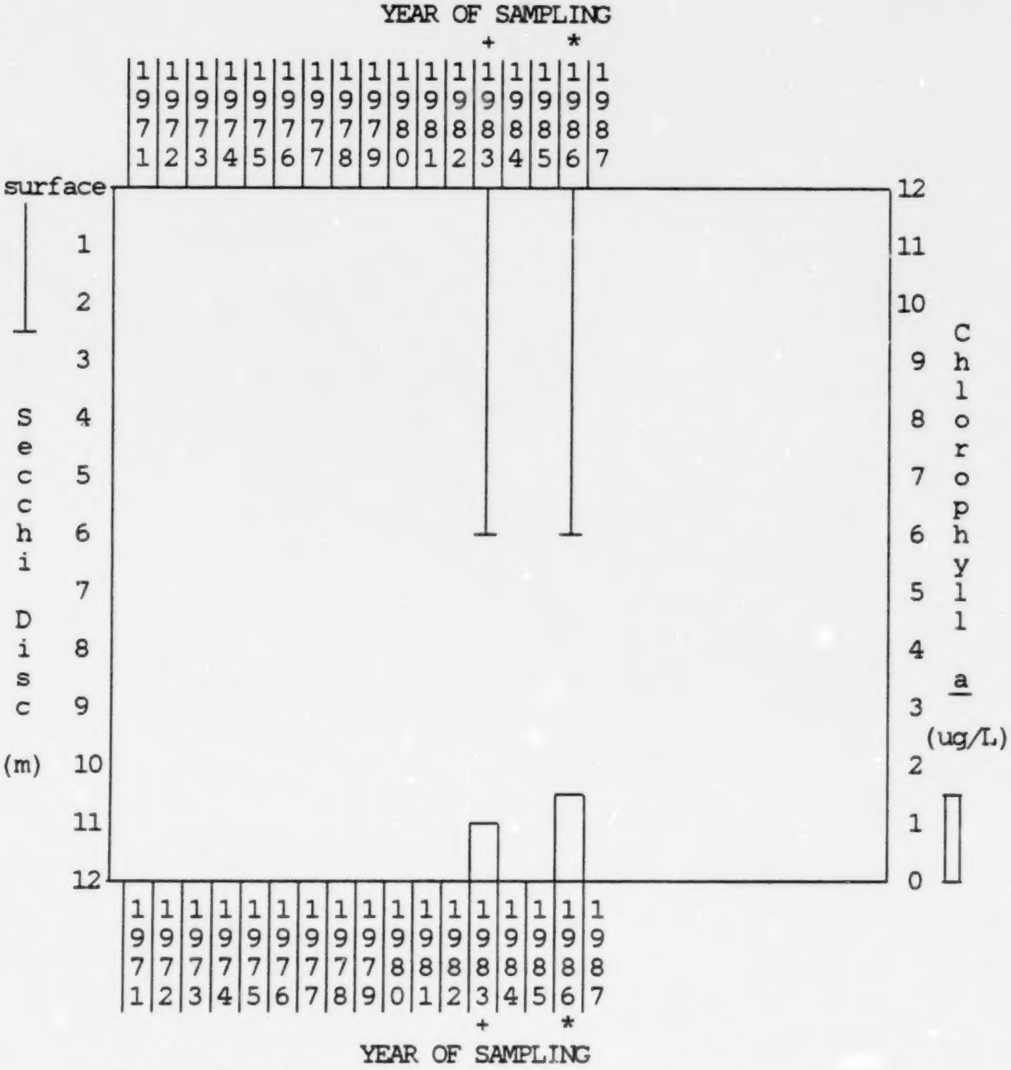


Figure 2 : Summary of results for Secchi disc (m) and chlorophyll a (ug/L) from Loon Lake in Monmouth Twp in Haliburton in 1986. Seasonal mean data (more than 6 sampling dates) unless otherwise specified. A minimum of 4 results was required for graphing.



* based on 4 or 5 results

+ M.O.E data

Since this is the first year that Loon Lake in Monmouth Township has been sampled as part of the Self-Help Program, we are unable to comment on the long-term water quality trends.

We hope sampling continues in 1987 in order to establish a long-term record of water quality.

LOON LAKE

MUSKOKA WARD
TOWN OF GRAVENHURST

DISTRICT MUNICIPALITY OF
MUSKOKA

Table 1: Secchi Disc (m) and chlorophyll a (ug/L) data collected from Loon lake in 1986

Station	Main	
Date	S.D.	Chl.a
July 27	4.0	2.9
Aug 4	2.8	2.9
Aug 10	3.1	3.1
Aug 17	2.8	1.6
Aug 24	3.3	4.1
Sep 1	2.5	6.9
	3.1	3.6

In 1986, Loon Lake was sampled on 6 occasions in July, August and September. Secchi disc readings ranged from 2.5 to 4.0 m and averaged 3.1 m, indicating a moderately low degree of water clarity. Chlorophyll a concentrations ranged from 1.6 to 6.9 ug/L and averaged 3.6 ug/L, indicating moderate densities of suspended algae.
Based on these results, Loon Lake would be considered moderately enriched.

FIGURE 1: The relationship between Secchi disc and chlorophyll a for Loon Lake in 1986 and a number of recreational lakes in Central Region. All data are seasonal averages.

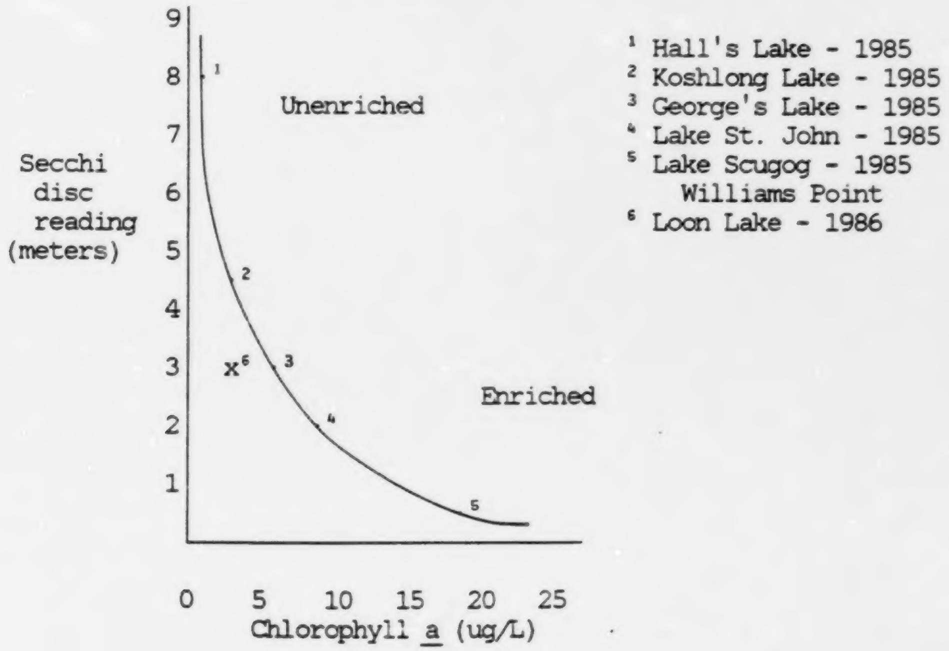
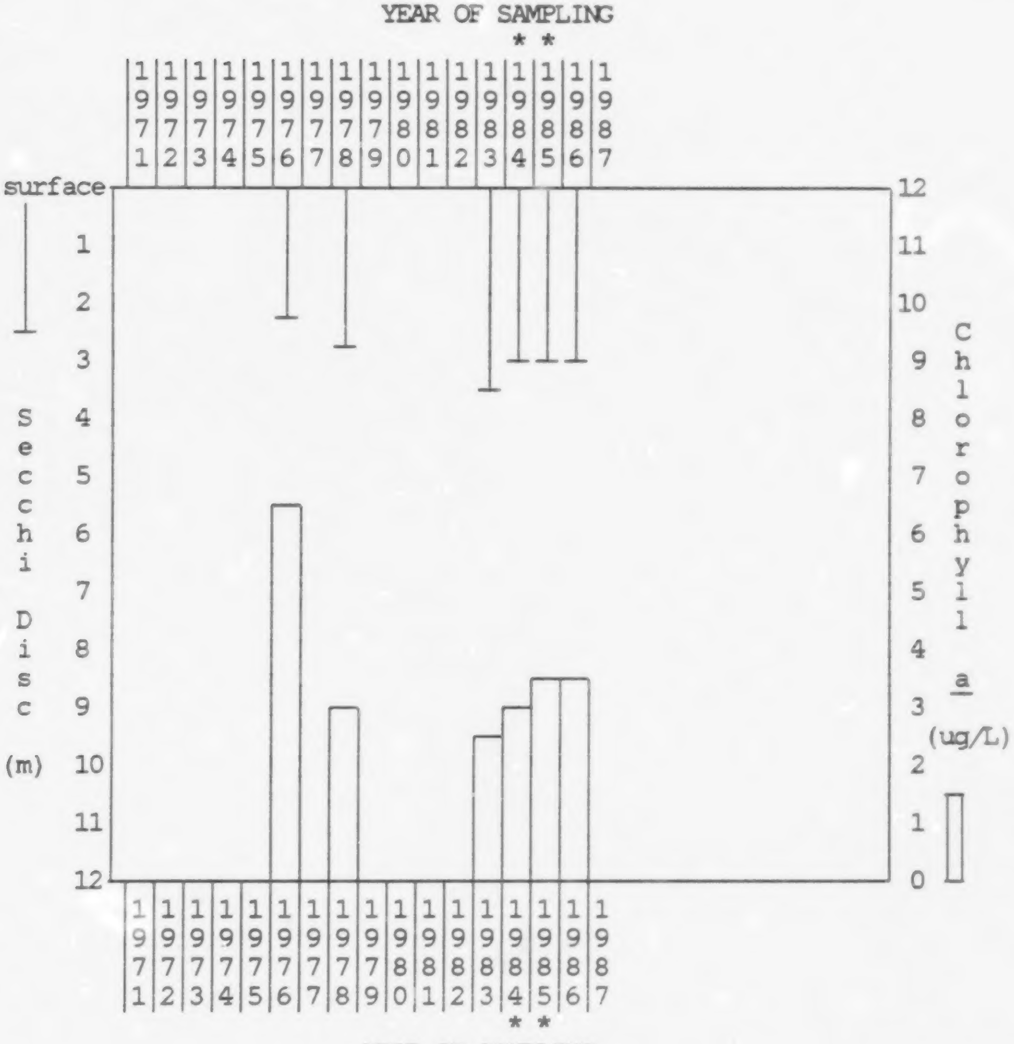


Figure 2 : Summary of results for Secchi disc (m) and chlorophyll a (ug/L) from Loon Lake in Muskoka from 1976 to 1986. Seasonal mean data (more than 6 sampling dates) unless otherwise specified. A minimum of 4 results was required for graphing.



* based on 4 or 5 results

The 6 years of available information for Loon Lake in Gravenhurst indicate that the degree of water clarity in recent years has been slightly higher than in 1976 and 1978.

The densities of suspended algae were highest in 1976 and have been moderate for the remainder of the period of record.

These results indicate that the water quality in Loon Lake has been better in recent years but there has been no major change.

We hope that sampling continues in 1987.

LOONCALL LAKE

BURLEIGH TOWNSHIP

COUNTY OF PETERBOROUGH

Table 1: Secchi Disc (m) and chlorophyll a (ug/L) data collected from Looncall Lake in 1986

Station	23 East		48 West	
Date	S.D.	Chl.a	S.D.	Chl.a
May 11	4.5	2.1	4.5	1.6
May 19	4.0	1.2	4.0	1.2
May 27	4.5	2.0	4.5	1.8
June 10	4.0	3.3	4.5	3.0
June 22	4.5	1.9	4.5	1.0
July 13	4.5	1.7	4.5	1.7
July 28	4.5	5.0	4.0	4.0
	4.3	2.5	4.3	2.0

Another good sampling program was done on Looncall Lake in 1986, with sampling on 7 occasions.
Water quality at both stations was similar, with an average Secchi disc reading of 4.3 m at both stations indicating a moderate degree of water transparency.
Chlorophyll a concentrations averaged 2.5 ug/L at the East station and 2.0 ug/L at the West station, indicating moderate densities of suspended algae.
Based on the 1986 results, Looncall Lake would still be considered moderately enriched.

FIGURE 1: The relationship between Secchi disc and chlorophyll a for Looncall Lake in 1986 and a number of recreational lakes in Central Region. All data are seasonal averages.

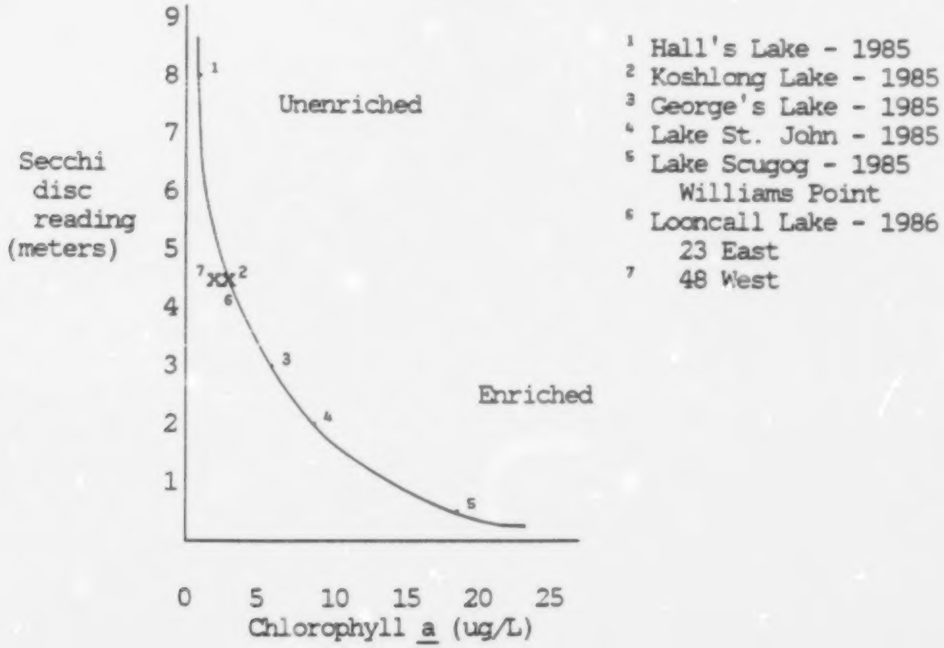
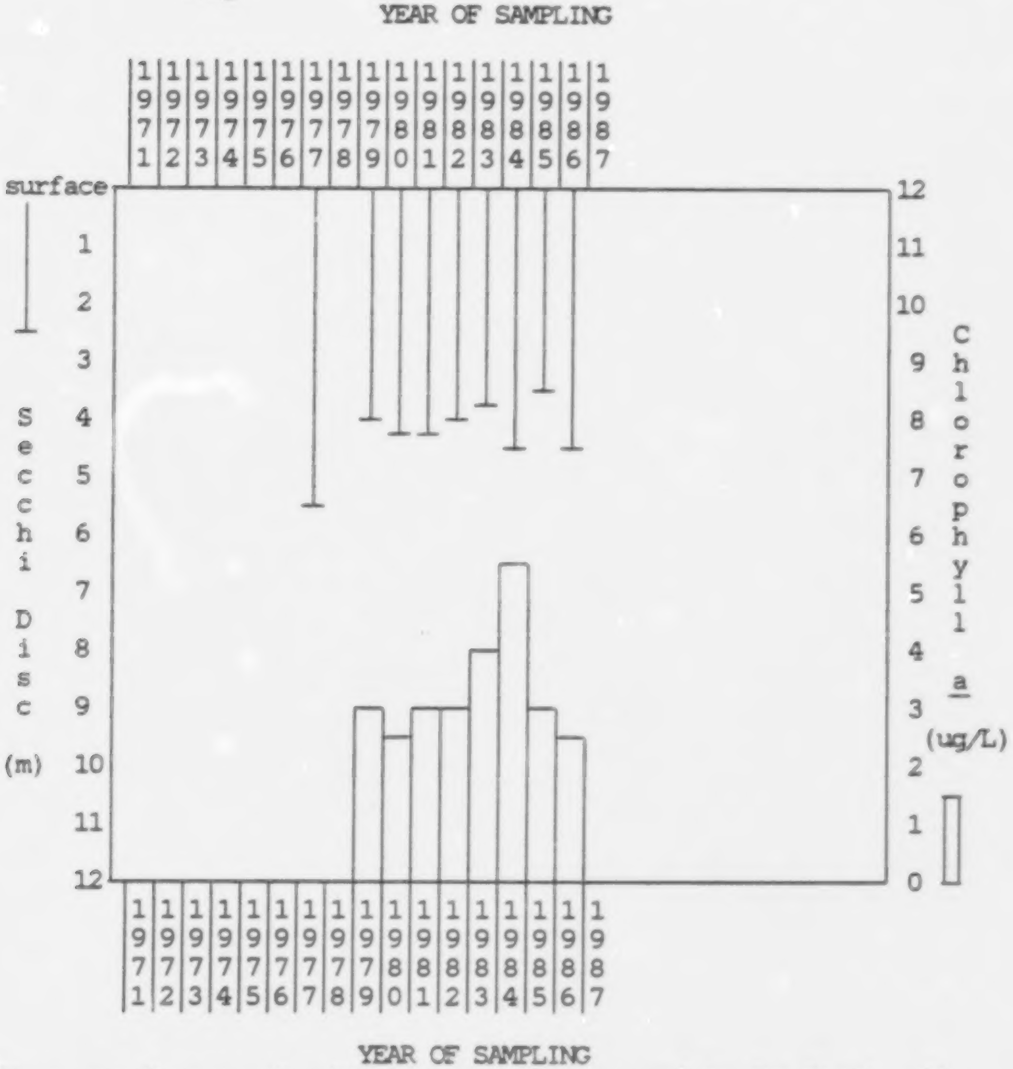


Figure 2 : Summary of results for Secchi disc (m) and chlorophyll a (ug/L) from Looncall Lake (Station 23 East) from 1977 to 1986. Seasonal mean data (more than 6 sampling dates) only.



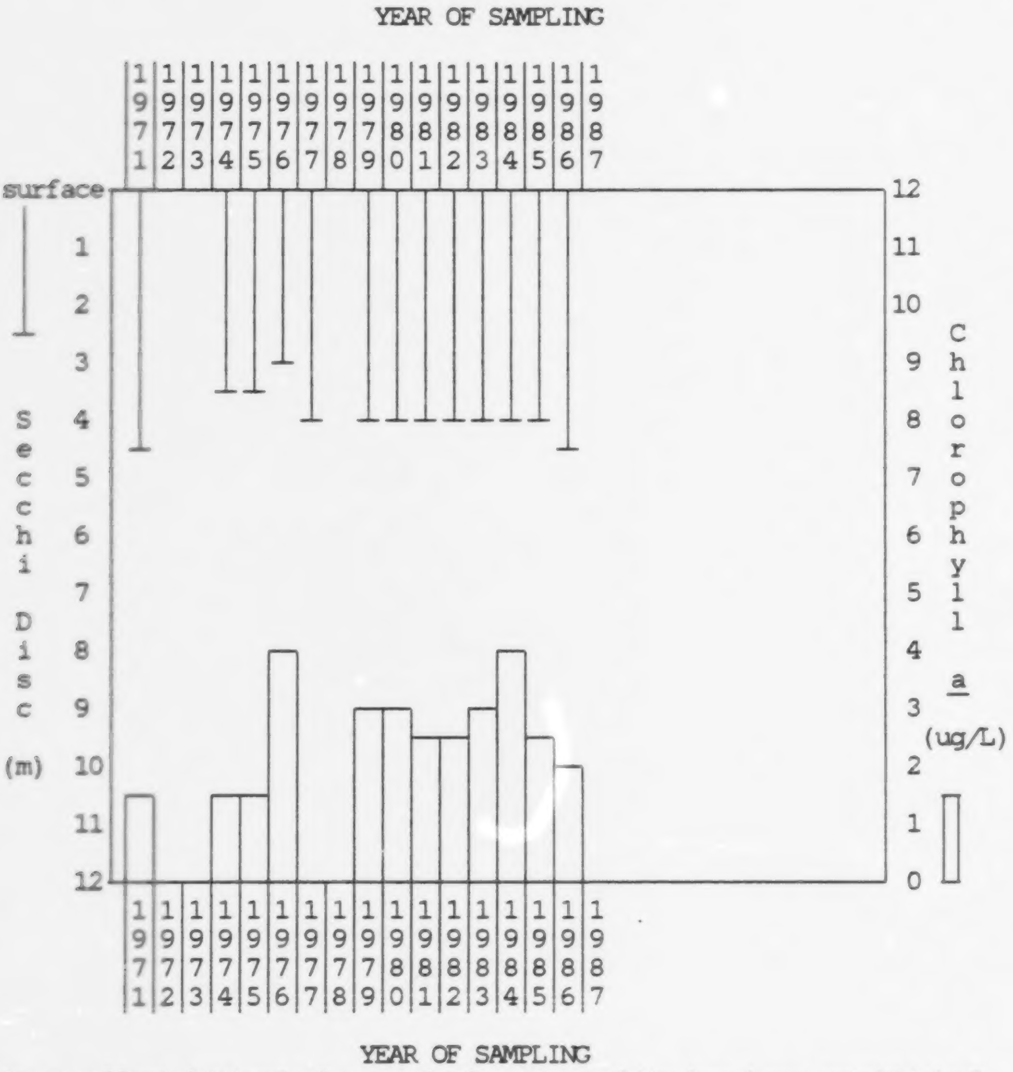
There are 9 years of reliable seasonal average data for Station 23 East on Looncall Lake.

The degree of water clarity has been moderate for most of the period of record except for 1977 when clarity was high.

Densities of suspended algae were moderately low except in 1983 and 1984 when densities were high. There has been no overall change in water quality at this location.

We hope you continue your excellent work in 1987.

Figure 2 : Summary of results for Secchi disc (m) and chlorophyll a (ug/L) from Looncall Lake (Station 48 West) from 1971 to 1986. Seasonal mean data (more than 6 sampling dates) only.



An excellent historical record of water quality has been established for Station 48 West on Looncall lake with 13 years of reliable data. The average Secchi disc readings have consistently ranged from 3 to 4.5 m indicating a moderate degree of water clarity.

Densities of suspended algae were low in 1971, 1974 and 1975 and since that time, densities of algae have been moderate.

The record of water quality for this location indicates moderately enriched conditions.

We hope you continue your excellent program at this location in 1987.

MEDORA LAKE

MEDORA WARD
TOWNSHIP OF MUSKOKA LAKES

DISTRICT MUNICIPALITY OF
MUSKOKA

Table 1: Secchi Disc (m) and chlorophyll a (ug/L) data collected from Medora Lake in 1986

Station	1	
Date	S.D.	Chl.a
June 22	4.5	L 0.3
July 1	5.0	3.3

In 1986, insufficient sampling was done on Medora Lake to obtain meaningful results.
If sampling is done in 1987, we recommend increasing the sampling frequency to at least 6 occasions.

L - Less than

FIGURE 1: The relationship between Secchi disc and chlorophyll a for Medora Lake in 1986 and a number of recreational lakes in Central Region. All data are seasonal averages.

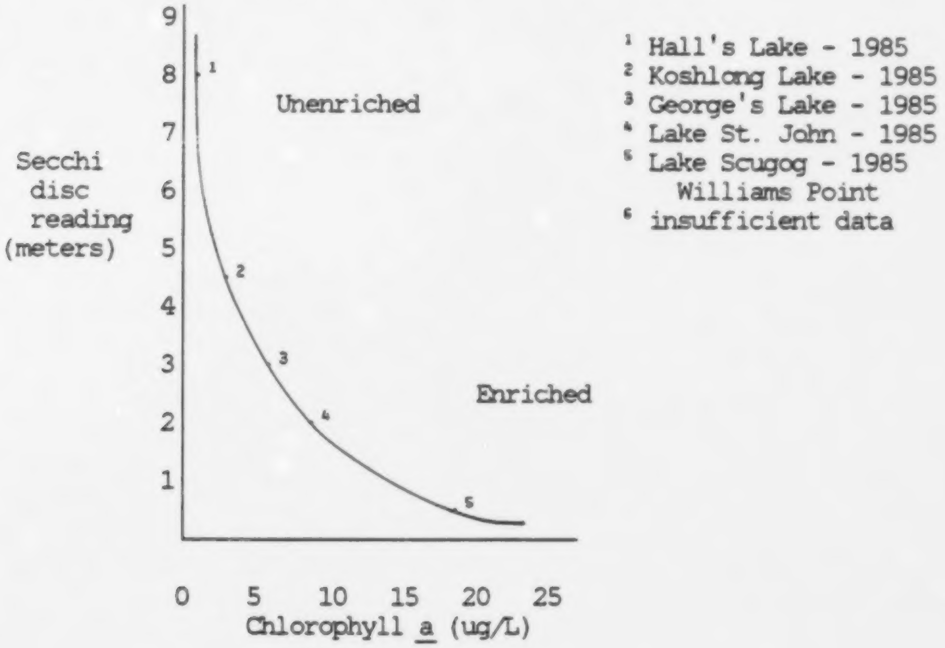
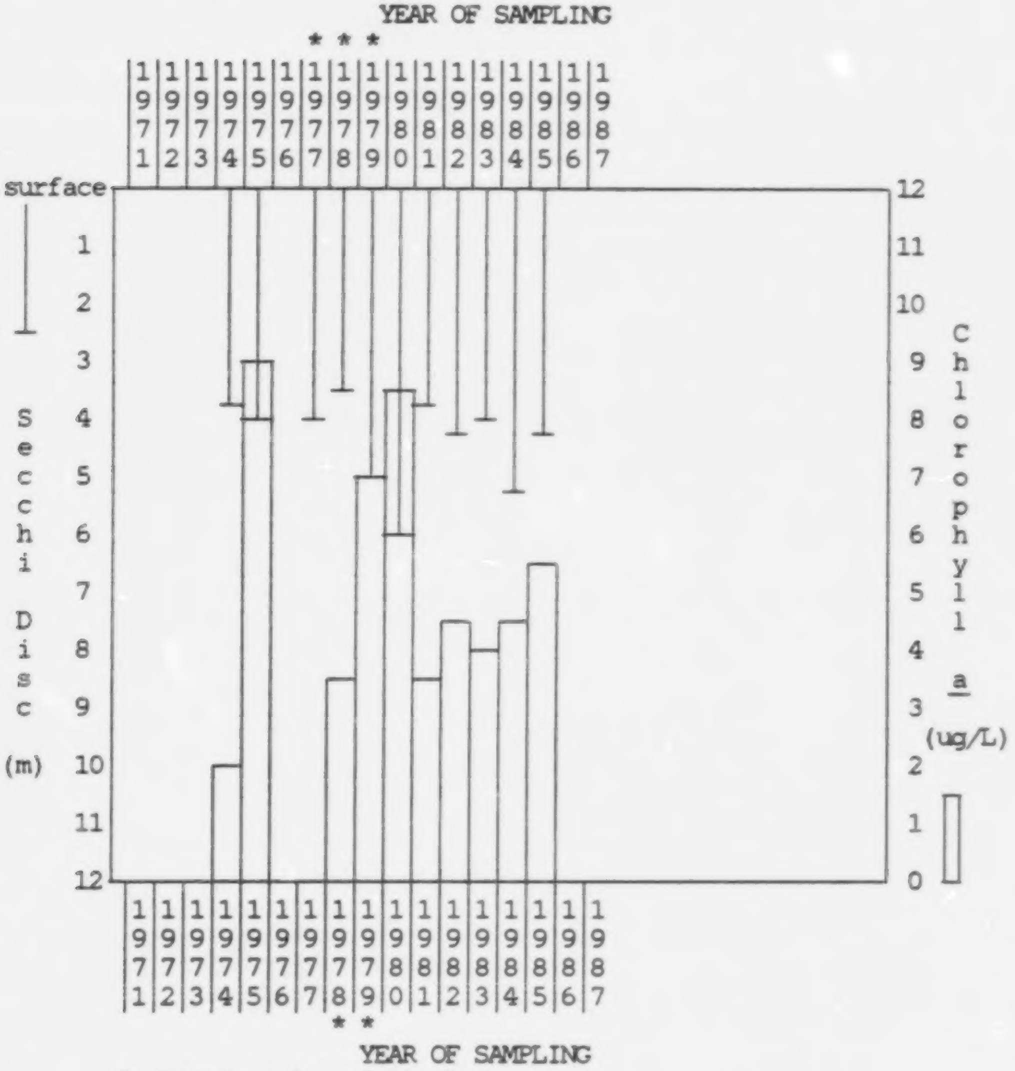


Figure 2 : Summary of results for Secchi disc (m) and chlorophyll a (ug/L) from Medora Lake from 1974 to 1986.
Seasonal mean data (more than 6 sampling dates) unless otherwise specified. A minimum of 4 results was required for graphing.



* based on 4 or 5 results

Insufficient sampling was done in 1986 to graph the results.
We now have 11 years of data for Medora Lake providing an excellent historical record of water quality.
The degree of water clarity has been moderate for most of the period of record, however, in 1979, 1980 and 1984 the clarity was high.
Densities of suspended algae have fluctuated from moderately low in 1974 to high densities in 1975, 1979 and 1985.
The wide ranges in chlorophyll a concentration often occur in moderately enriched lake conditions. There has been no overall change in water quality in this lake since 1974.
We hope you continue sampling Medora Lake in 1987, with increased sampling frequency.

MINDEN LAKE

MINDEN TOWNSHIP

COUNTY OF HALIBURTON

Table 1: Secchi Disc (m) and chlorophyll a (ug/L) data collected from Minden Lake in 1986

Station	Bingham Bay	
Date	S.D.	Chl.a
June 15	4.75	1.1
June 22	4.38	1.1
July 6	5.2	EF
July 27	4.5	2.7
Aug 4	5.5	2.8
Aug 10	4.1	3.3
Aug 24	4.125	2.5
Sept 1	4.75	2.3
	4.7	2.25

EF - Laboratory equipment failure.

Another good sampling program was conducted on Minden Lake in 1986, with 8 sampling occasions. Secchi disc readings were generally high, ranging from 4.1 to 5.5 m and averaging 4.7 m, indicating a moderately high degree of water transparency. Chlorophyll a concentrations ranged from 1.1 to 3.3 ug/L and averaged 2.25 m, indicating moderately low densities of suspended algae. Based on 1986 results, Minden Lake would be considered borderline between moderately enriched and unenriched.

FIGURE 1: The relationship between Secchi disc and chlorophyll a for Minden Lake in 1986 and a number of recreational lakes in Central Region. All data are seasonal averages.

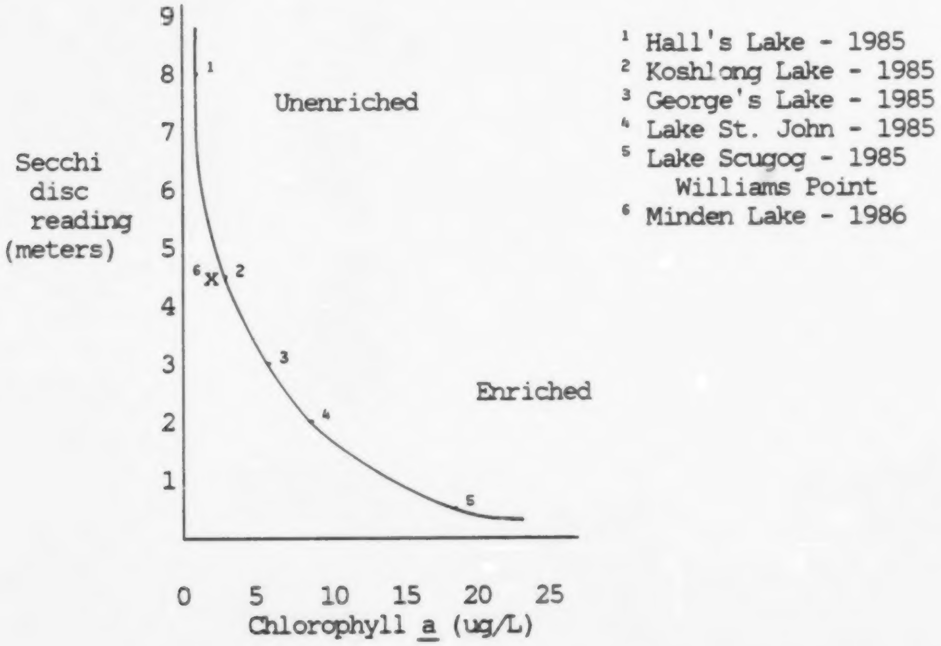
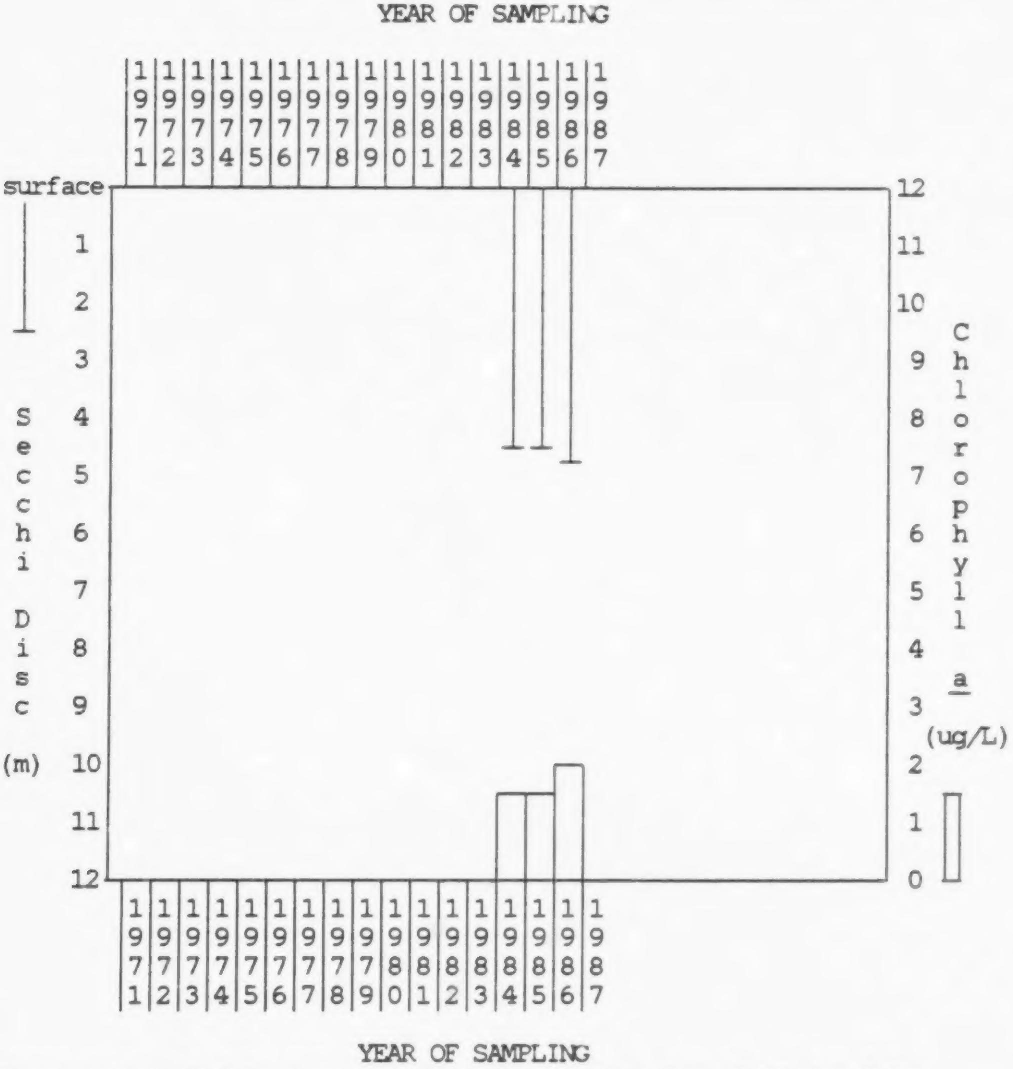


Figure 2 : Summary of results for Secchi disc (m) and chlorophyll a (ug/L) from Minden Lake (Bingham Bay) from 1984 to 1986. Seasonal mean data (more than 6 sampling dates) only.



YEAR OF SAMPLING

Three years of data are available for Bingham Bay of Minden Lake.
The degree of water clarity has been moderately high and the densities of suspended algae have been low for the last 3 years.
We hope that sampling continues in 1987 in order to monitor long-term changes in water quality on Minden Lake.

MISKWABI LAKE

DUDLEY TOWNSHIP

COUNTY OF HALIBURTON

Table 1: Secchi Disc (m) and chlorophyll a (ug/L) data collected from Miskwabi Lake in 1986

Station Date	East Stn.13 S.D.	East Stn.13 Chl.a	West Stn.6 S.D.	West Stn.6 Chl.a
June 8	6.5	1.5		
June 10			7.5	1.3
June 15	5.75	1.4		
June 22	5.25	L 0.8	5.5	L 0.4
June 30	5.25	1.0		
July 6	5.25	EF		
July 20			5.0	1.7
Aug 4	5.25	3.4	4.8	2.1
Aug 19	5.5	2.1		
Oct 20			5.0	2.1
	-----	-----	-----	-----
	5.5	1.7	5.6	1.5

L - Less than

EF - Laboratory equipment failure.

A good sampling program was done at the East station of Miskwabi Lake in 1986, with 7 sampling occasion, but the West station was only sampled on 4 occasion. Water quality was similar at both station, with Secchi disc readings averaging 5.5 m at the East station and 5.6 m at the West station indicating good water clarity. Chlorophyll a concentrations averaged 1.7 ug/L at the East station and 1.5 ug/L at the West station indicating low densities of suspended algae. Water quality of Miskwabi Lake was again excellent in 1986, typical of unenriched conditions.

FIGURE 1: The relationship between Secchi disc and chlorophyll a for Miskwabi Lake in 1986 and a number of recreational lakes in Central Region. All data are seasonal averages.

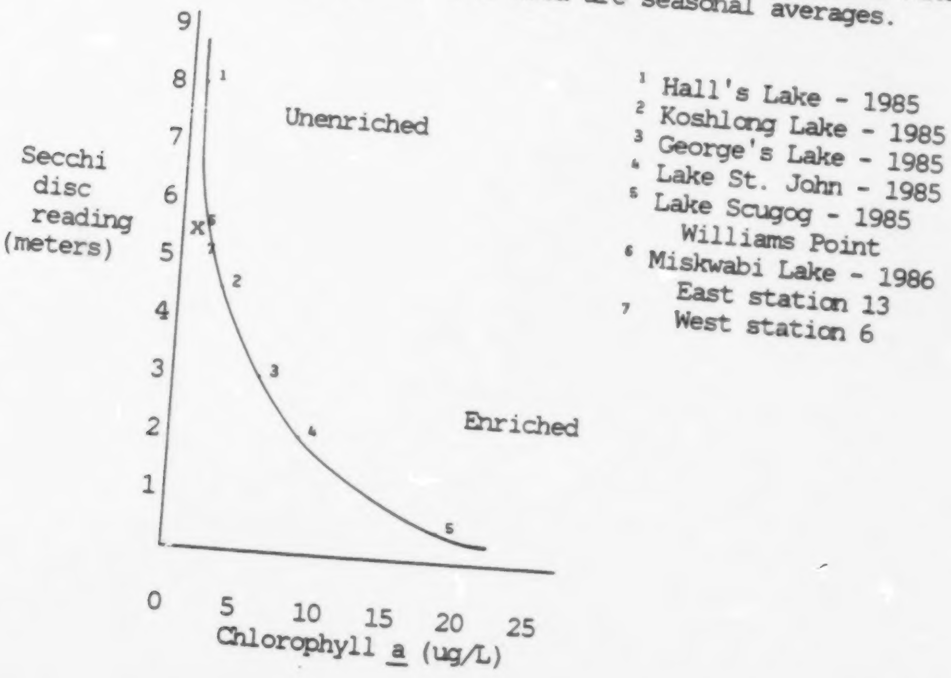
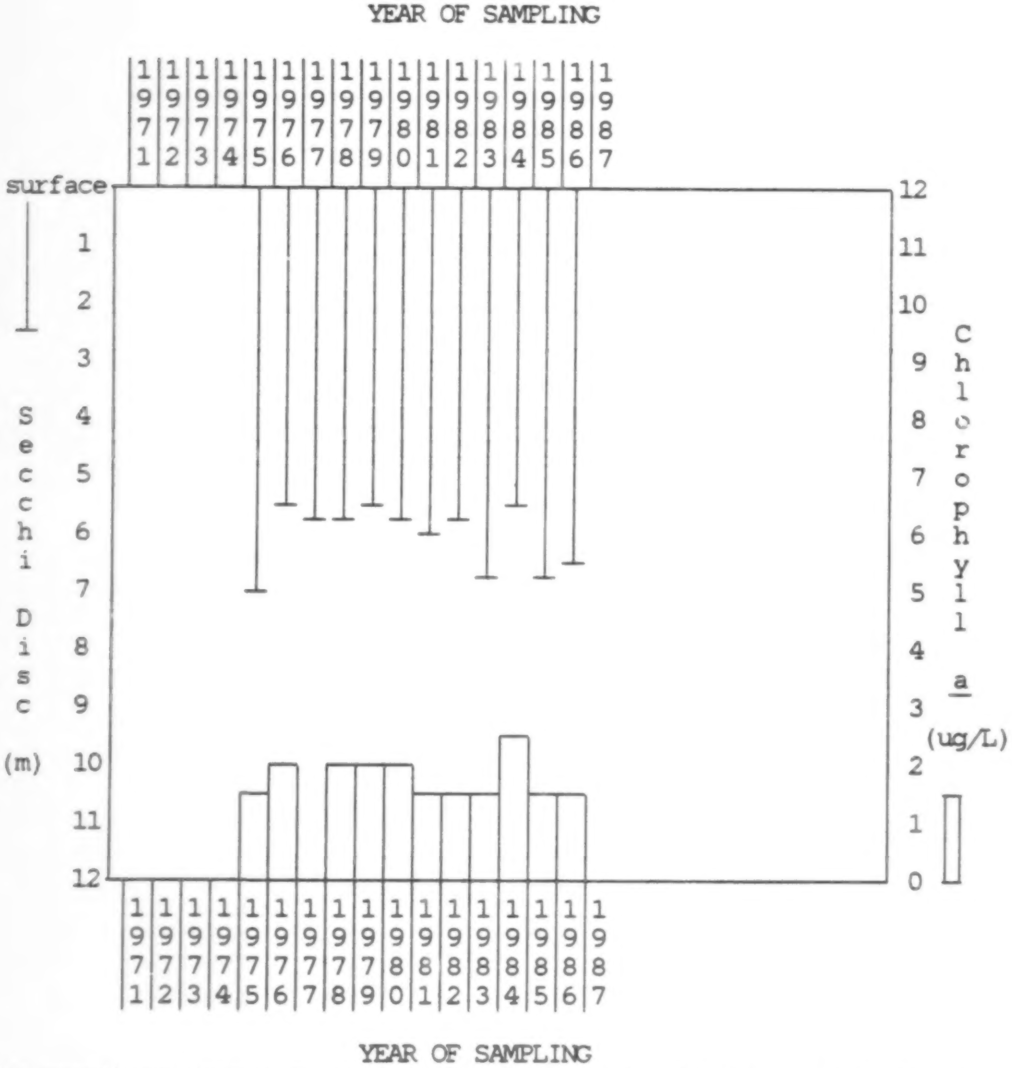
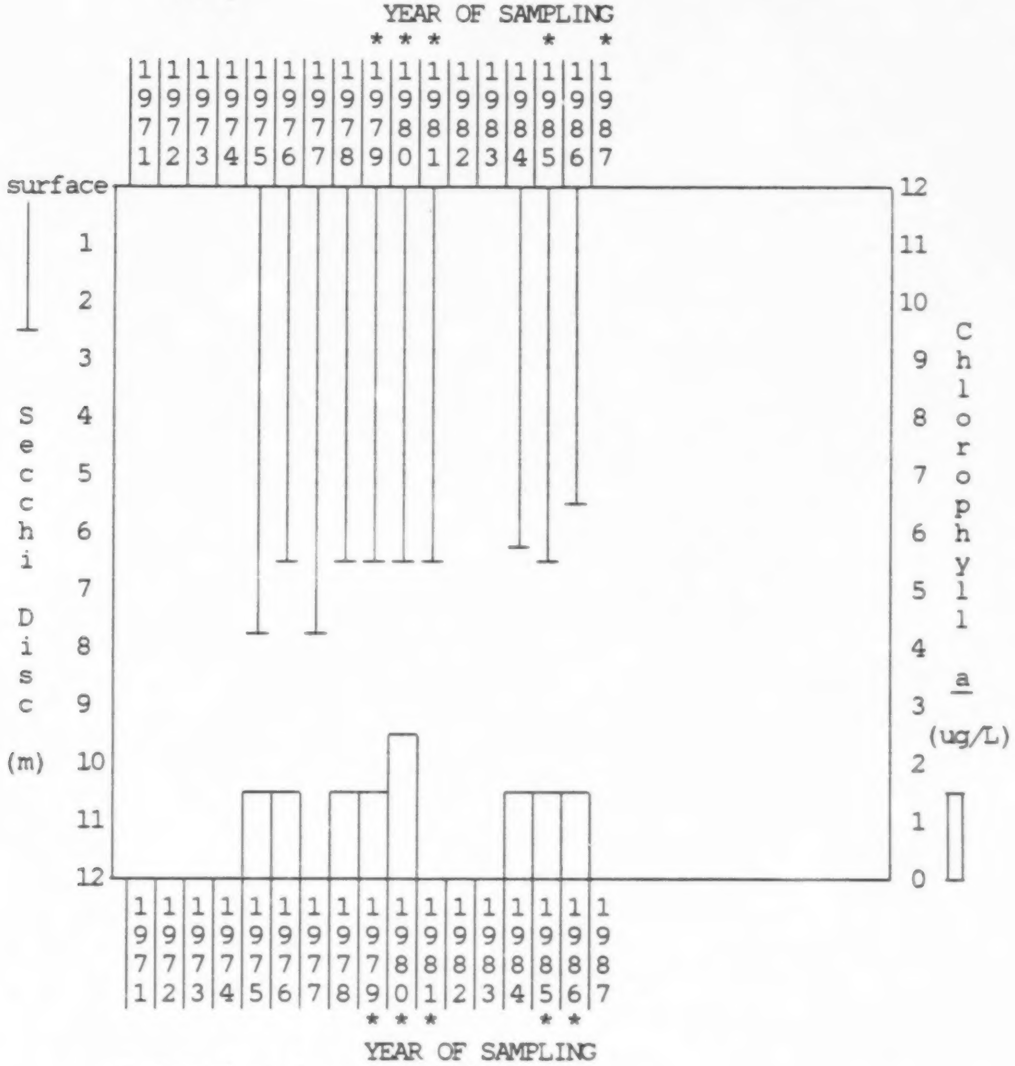


Figure 2 : Summary of results for Secchi disc (m) and chlorophyll a (ug/L) from Miskwabi Lake (Station 13 East) from 1975 to 1986. Seasonal mean data (more than 6 sampling dates) only. A minimum of 4 results was required for graphing.



An excellent long-term record of water quality has been established for Miskwabi Lake Station 13 with 12 years of data.
The degree of water clarity has been high and the densities of suspended algae have been low for most of the period of record.
No overall changes in water quality have occurred at this location.
A detailed water quality survey of Miskwabi Lake was done in 1986 by the Ministry of the Environment.
We hope Self Help continues at this location in 1987.

Figure 2 : Summary of results for Secchi disc (m) and chlorophyll a (ug/L) from Miskwabi Lake (Station 6 West) from 1975 to 1986. Seasonal mean data (more than 6 sampling dates) only.



* based on 4 or 5 results

We now have a good historical record of water quality for Miskwabi Lake at Station 6 with 10 years of data.

The degree of water clarity has been consistently high and the densities of suspended algae have been low for the period of record. There have been no overall changes in water quality in Miskwabi Lake at this location. A detailed water quality survey of this lake was done by the Ministry of the Environment in 1986.

We hope the Self Help Program continues also to maintain the excellent record of water quality.

MISSISSAGUA LAKE

HARVEY & CAVENDISH TOWNSHIPS

COUNTY OF PETERBOROUGH

Table 1: Secchi Disc (m) and chlorophyll a (ug/L) data collected from Mississagua Lake in 1986

Station	North End		South End	
Date	S.D.	Chl.a	S.D.	Chl.a
July 6	4.6	2.4	4.4	2.6
Aug 10	5.2	1.3	5.2	1.2

Insufficient sampling was done on Mississagua Lake in 1986 to obtain meaningful results.
If sampling continues in 1987, we recommend increasing the sampling frequency to at least 6 occasions if possible.

FIGURE 1: The relationship between Secchi disc and chlorophyll a for Mississagua Lake in 1986 and a number of recreational lakes in Central Region. All data are seasonal averages.

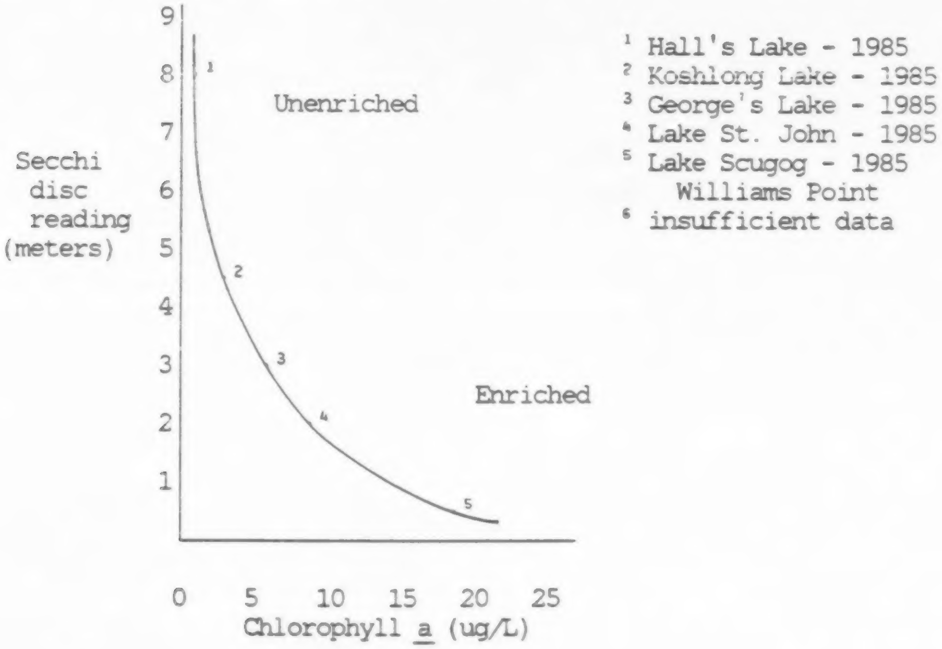
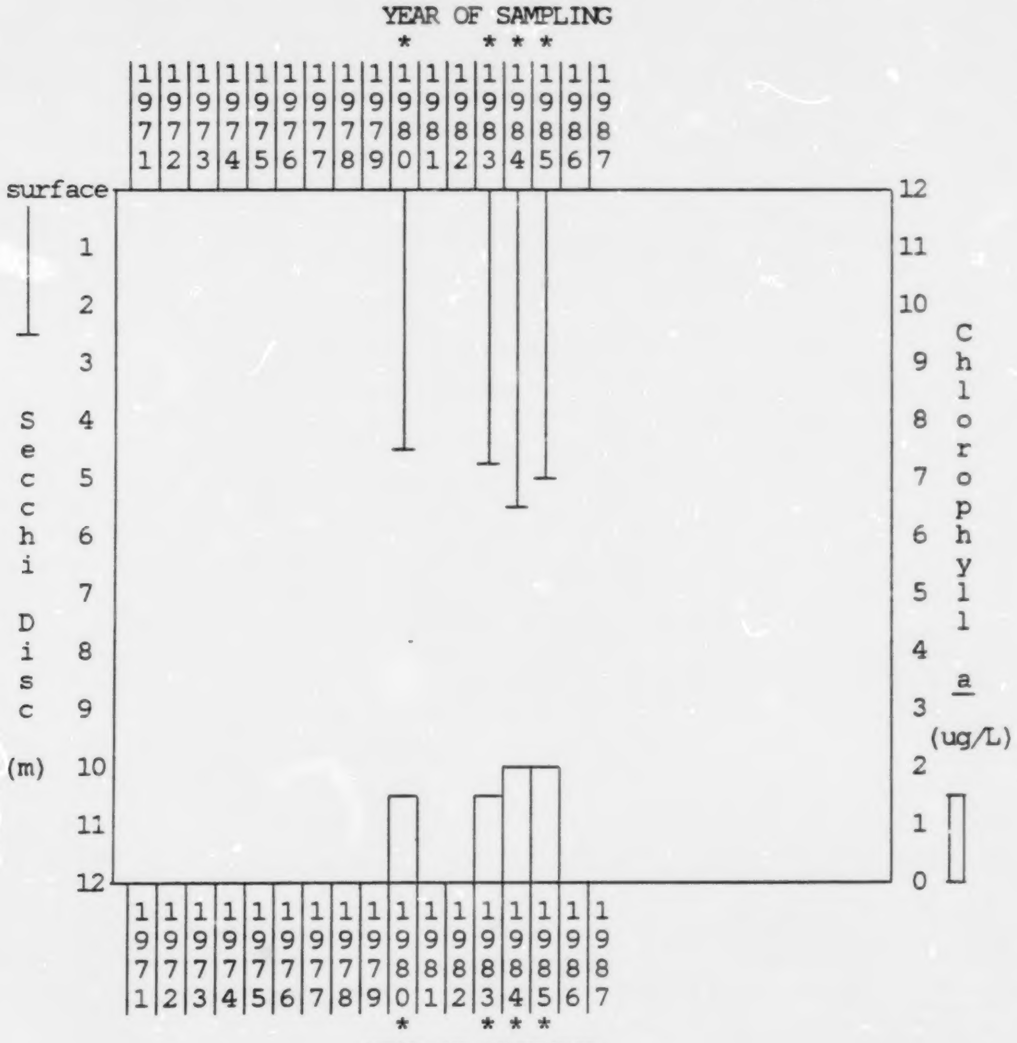


Figure 2 : Summary of results for Secchi disc (m) and chlorophyll a (ug/L) from Mississagua Lake (North station) from 1980 to to 1986. Seasonal mean data (more than 6 sampling dates) only. A minimum of 4 results was required for graphing.



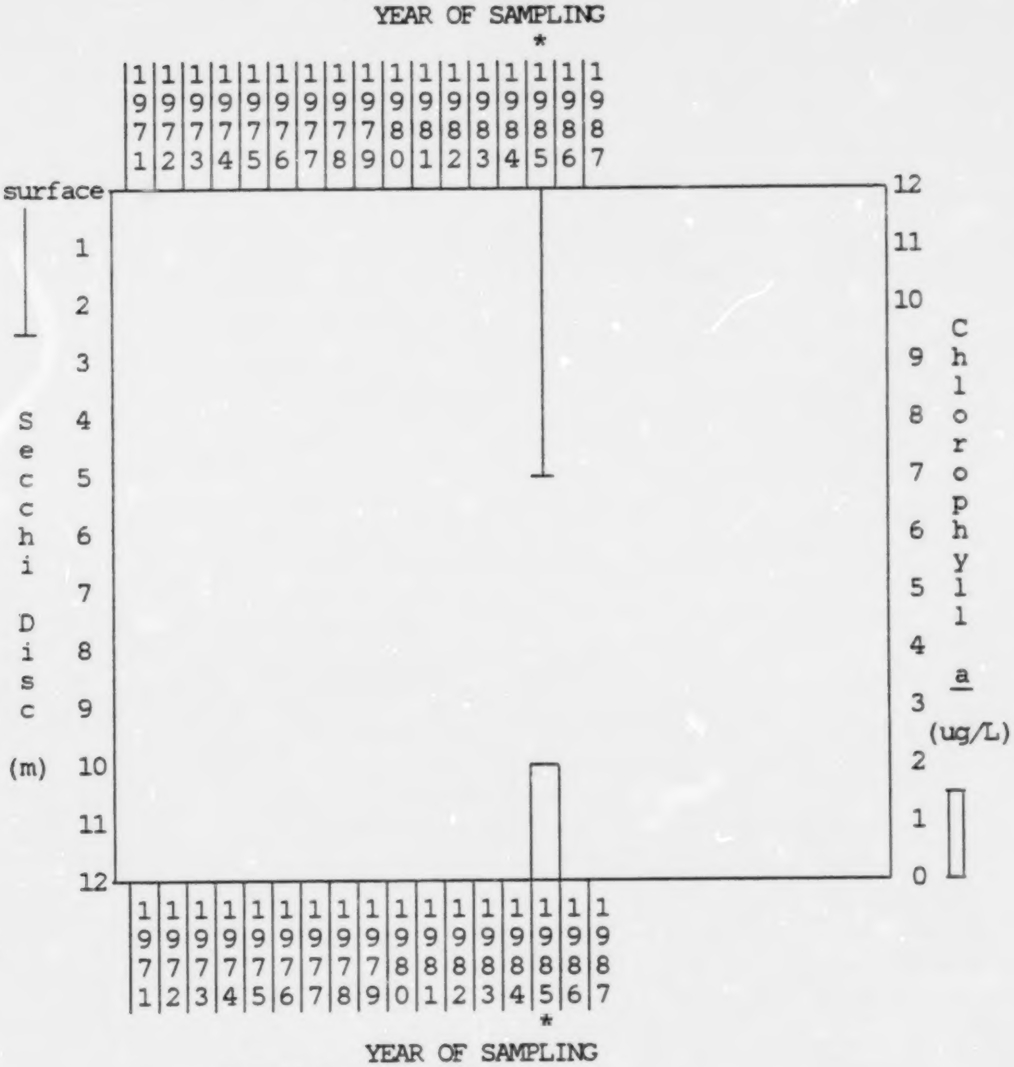
* Based on 4 or 5 samples.

Insufficient sampling was done in 1986 to get meaningful results.

We have 4 previous years of data for the North station of Mississagua Lake. The degree of water clarity has been moderate to high during that time. Secchi disc readings have ranged from 4.6 to 5.5 m. Densities of suspended algae have been low for the period of record with chlorophyll a concentrations less than 2 ug/L.

We hope that sampling continues in 1987, with increased frequency, in order to monitor long-term changes in water quality at this station.

Figure 2 : Summary of results for Secchi disc (m) and chlorophyll a (ug/L) from Mississagua Lake (South station) from 1985 and 1986. Seasonal mean data (more than 6 sampling dates) unless otherwise specified.



* Based on 5 samples.

Insufficient sampling was done in 1986 to obtain meaningful results. Since we only have 1 year of data for the South station of Mississagua Lake, we are unable to comment on the long-term water quality trends. We hope sampling continues in 1987 at this location, with increased frequency, in order to establish a long-term record of water quality.

MOOT LAKE

McLEAN WARD
TOWNSHIP OF LAKE OF BAYS

DISTRICT MUNICIPALITY OF
MUSKOKA

Table 1: Secchi Disc (m) and chlorophyll a (ug/L) data collected from Moot Lake in 1986

Station	South End	
Date	S.D.	Chl.a
July 4	1.25	4.3
July 6	1.3	9.8
July 20	1.75	33.1
July 27	1.75	8.5
Aug 1	1.0	14.1
Aug 17	1.5	7.1
Aug 25	1.0	5.4
Sept 1	1.3	7.0
	1.4	11.2

Another excellent sampling program was done on Moot Lake in 1986, with sampling 8 occasions.
Secchi disc readings ranged from 1.0 to 1.75 m and averaged 1.4 m, indicating a low degree of water clarity.
Chlorophyll a concentrations ranged from 4.3 to 33.1 ug/L and averaged 11.2 ug/L, indicating that high densities of suspended algae were present, particularly on July 20 and Aug 1.
Based on these results, Moot Lake would be considered enriched, with low water transparency and high densities of suspended algae.

FIGURE 1: The relationship between Secchi disc and chlorophyll a for Moot Lake in 1986 and a number of recreational lakes in Central Region. All data are seasonal averages.

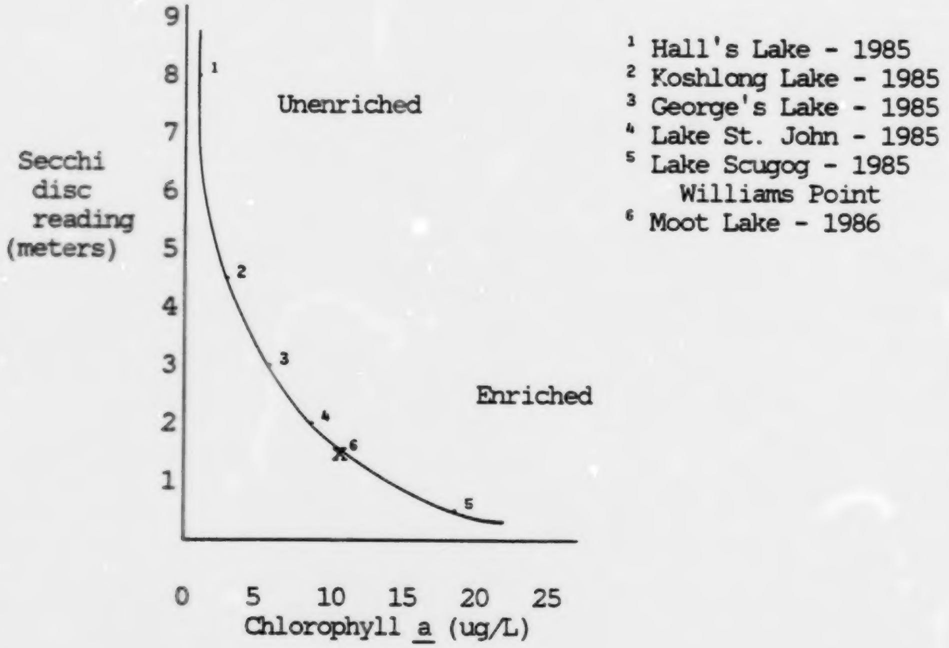
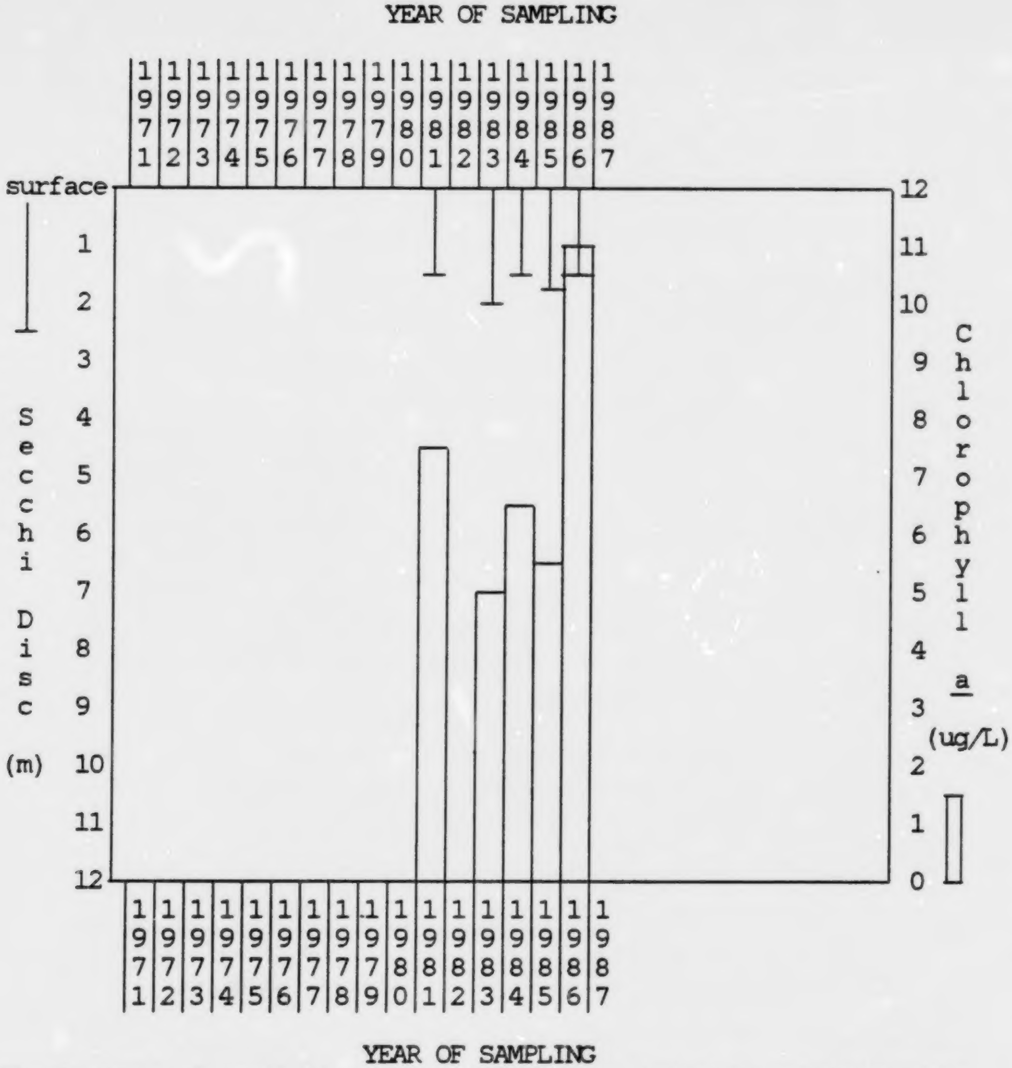


Figure 2 : Summary of results for Secchi disc (m) and chlorophyll a (ug/L) from Moot Lake from 1981 to 1986. Seasonal mean data (more than 6 sampling dates) unless specified. A minimum of 4 results was required for graphing.



The 5 years of available data for Moot Lake indicate a consistently low degree of water clarity and high densities of suspended algae, with unusually high densities of suspended algae occurring in 1986. The variable, high densities of algae are characteristic of an enriched lake.

We hope you continue your excellent participation in this program in 1987 in order to establish a long-term water quality record for Moot Lake.

MORRISON LAKE

WOOD WARD
TOWN OF GRAVENHURST

DISTRICT MUNICIPALITY OF
MUSKOKA

Table 1: Secchi Disc (m) and chlorophyll a (ug/L) data collected from Morrison Lake in 1986

Station	NORTH BAY		SOUTH BAY		WEST BAY	
Date	S.D.	Chl.a	S.D.	Chl.a	S.D.	Chl.a
June 8	2.5	1.9	3.5	2.0		
June 15			2.0	1.3	2.5	1.3
June 22	2.0	3.2				
July 6			3.0	2.1	2.5	5.5
July 27	3.0	5.9			2.5	3.8
	-----	-----	-----	-----	-----	-----

Insufficient sampling was done in 1986 to obtain meaningful results. Based on the 3 available results, the degree of water transparency was low, and the densities of suspended algae were moderate. If sampling continues in 1987, we recommend increasing sampling frequency to at least 6 occasions for each station, for more meaningful results.

FIGURE 1: The relationship between Secchi disc and chlorophyll a for Morrison Lake in 1986 and a number of recreational lakes in Central Region. All data are seasonal averages.

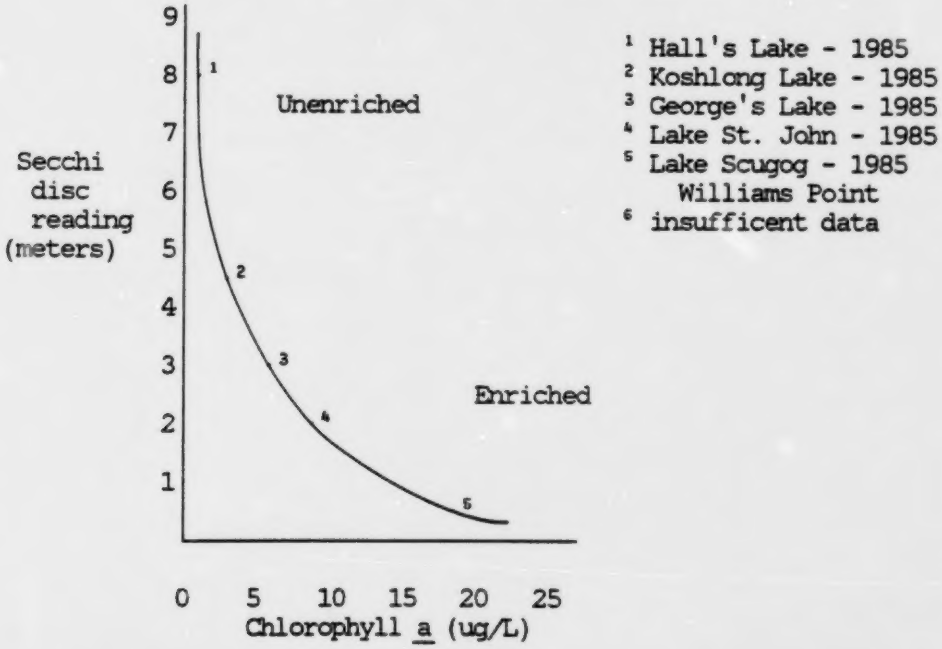
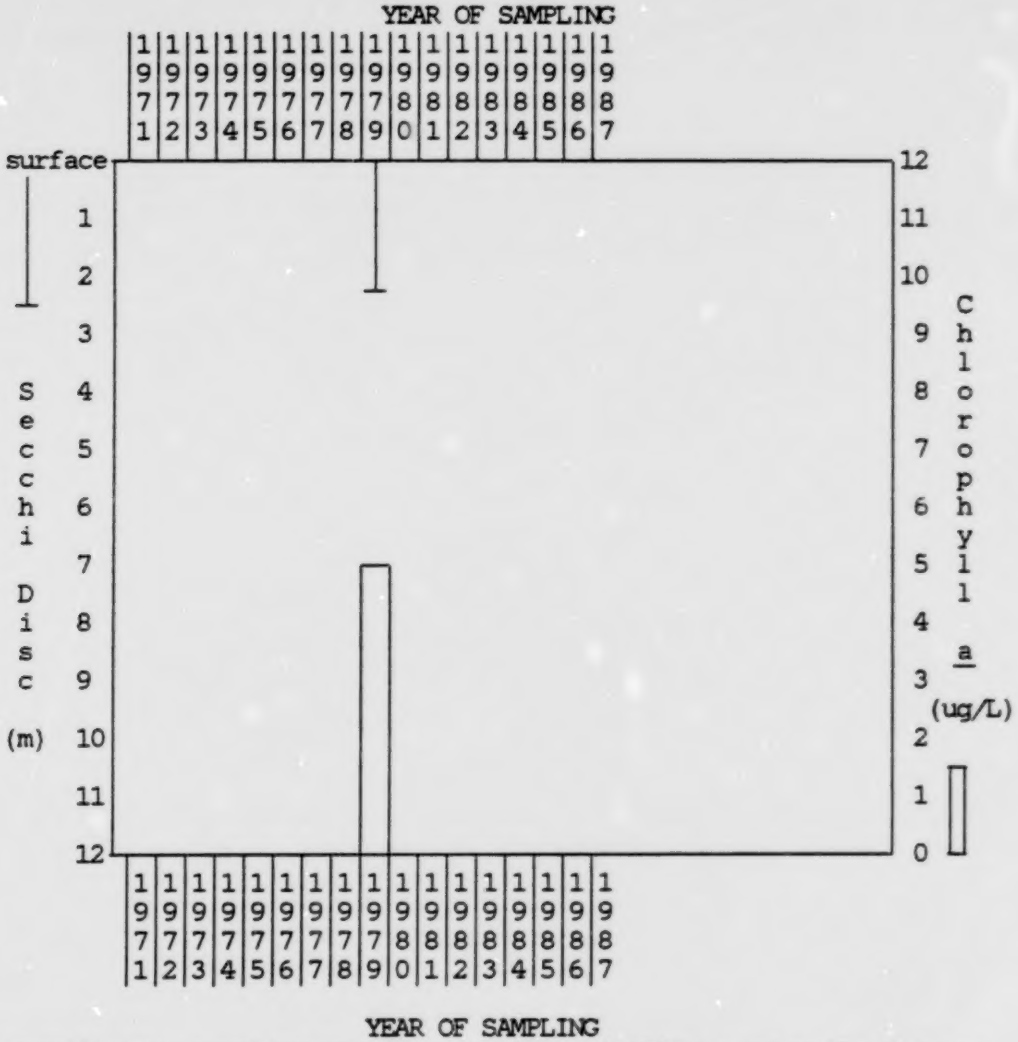
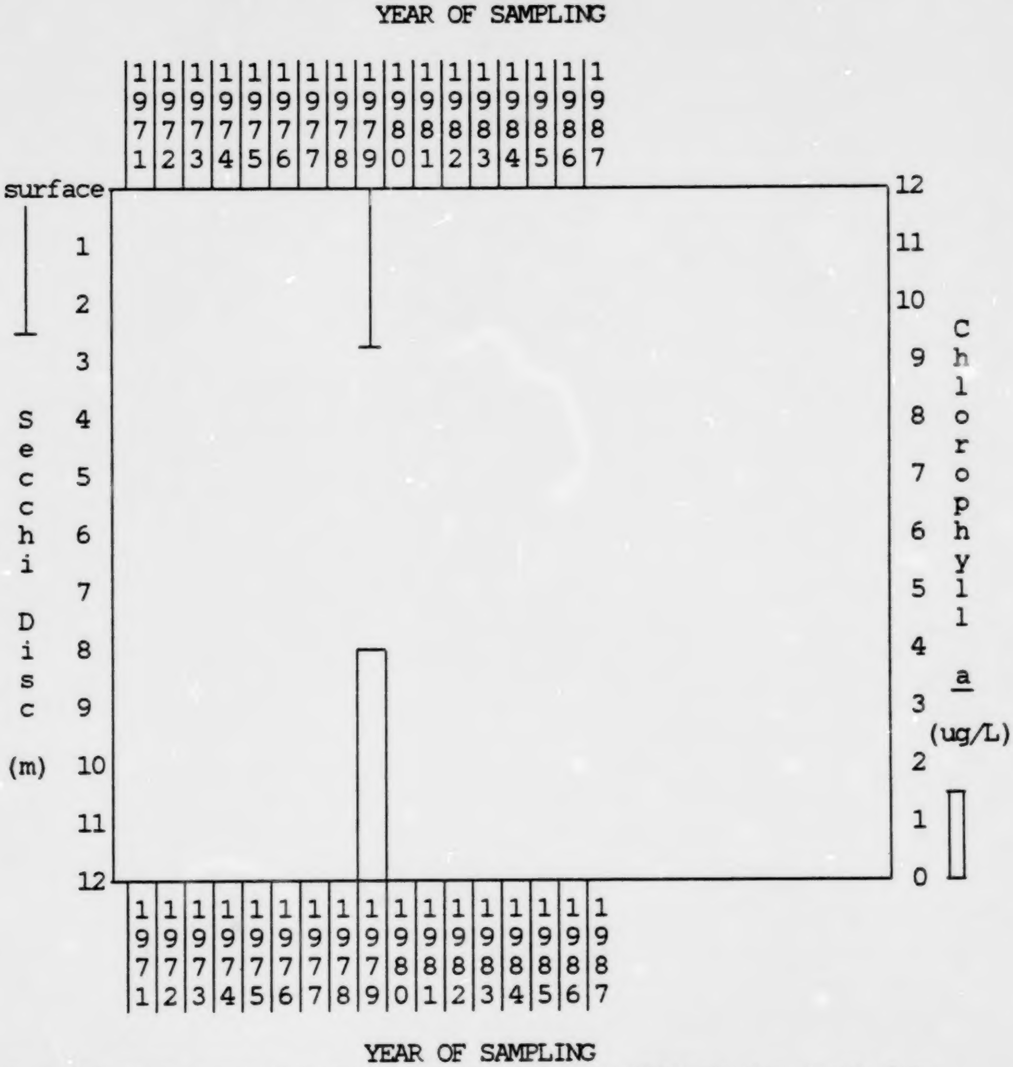


Figure 2 : Summary of results for Secchi disc (m) and chlorophyll a (ug/L) from Morrison Lake (North Bay) from 1979. Seasonal mean data (more than 6 sampling dates) only. A minimum of 4 results was required for graphing.



Insufficient sampling was done in 1985 and 1986 to enter the data on the graph. We hope that sampling in 1987 is done with increased frequency in order to obtain meaningful results.

Figure 2 : Summary of results for Secchi disc (m) and chlorophyll a (ug/L) from Morrison Lake (South Bay) from 1979. Seasonal mean data (more than 6 sampling dates) only. A minimum of 4 results was required for graphing.



Insufficient sampling was done in 1985 and 1986 at the South Bay station to get meaningful results. (Insufficient sampling was also done at the West Bay station to graph the results.)
We hope that sampling in 1987 is done with increased sampling frequency.

MOUNTAIN LAKE

MINDEN TOWNSHIP

COUNTY OF HALIBURTON

Table 1: Secchi Disc (m) and chlorophyll a (ug/L) data collected from Mountain Lake in 1986

Station	North		South	
Date	S.D.	Chl.a	S.D.	Chl.a
May 19	5.0	2.5		
June 22	5.5	L 0.5		
July 6	6.0	1.5	6.0	1.4
July 20	5.5	1.8	5.5	2.0
July 27	6.5	2.7	5.0	2.6
Aug 4	5.0	2.4	5.0	2.7
Aug 10	3.5	2.3	3.5	2.2
Aug 17	5.0	2.4	5.0	2.8
Sept 1	4.5	2.4	4.5	2.4
Oct 13	5.2	1.2	5.0	1.7
	5.2	2.0	4.9	2.2

L - Less than

A good sampling program was conducted on Mountain Lake in 1986. Secchi disc readings averaged 5.2 m at the North station and 4.9 m at the South station, indicating moderately high water clarity. Chlorophyll a concentrations averaged 2.0 ug/L at the North station and 2.2 ug/L at the South station, indicating moderately low densities of suspended algae. Based on these results, Mountain Lake would be considered borderline between moderately enriched and unenriched.

FIGURE 1: The relationship between Secchi disc and chlorophyll a for Mountain Lake in 1986 and a number of recreational lakes in Central Region. All data are seasonal averages.

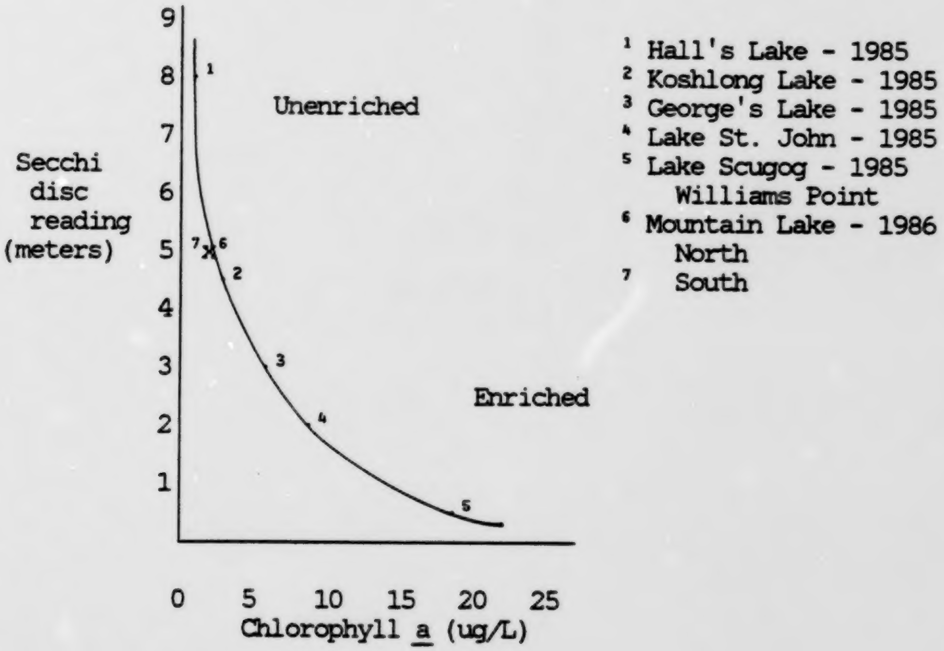
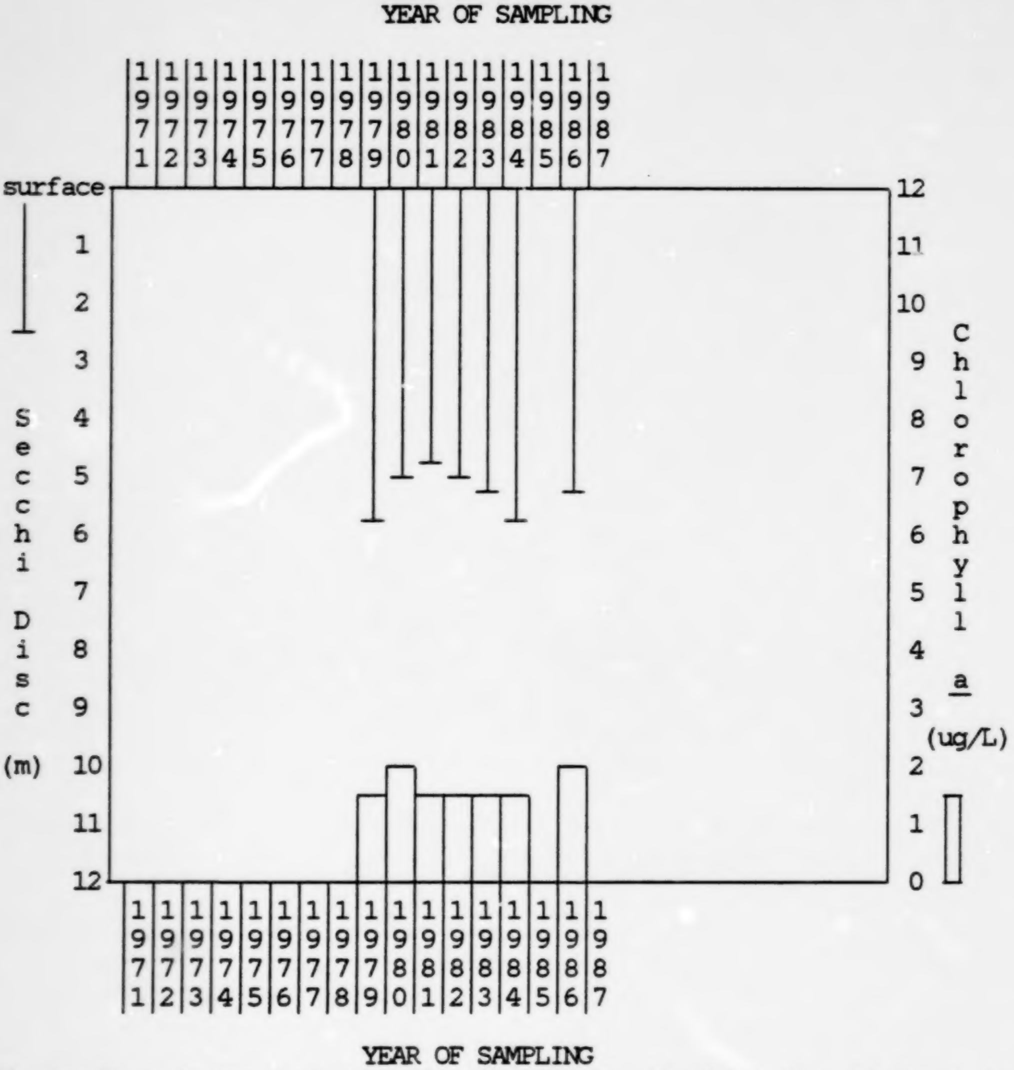


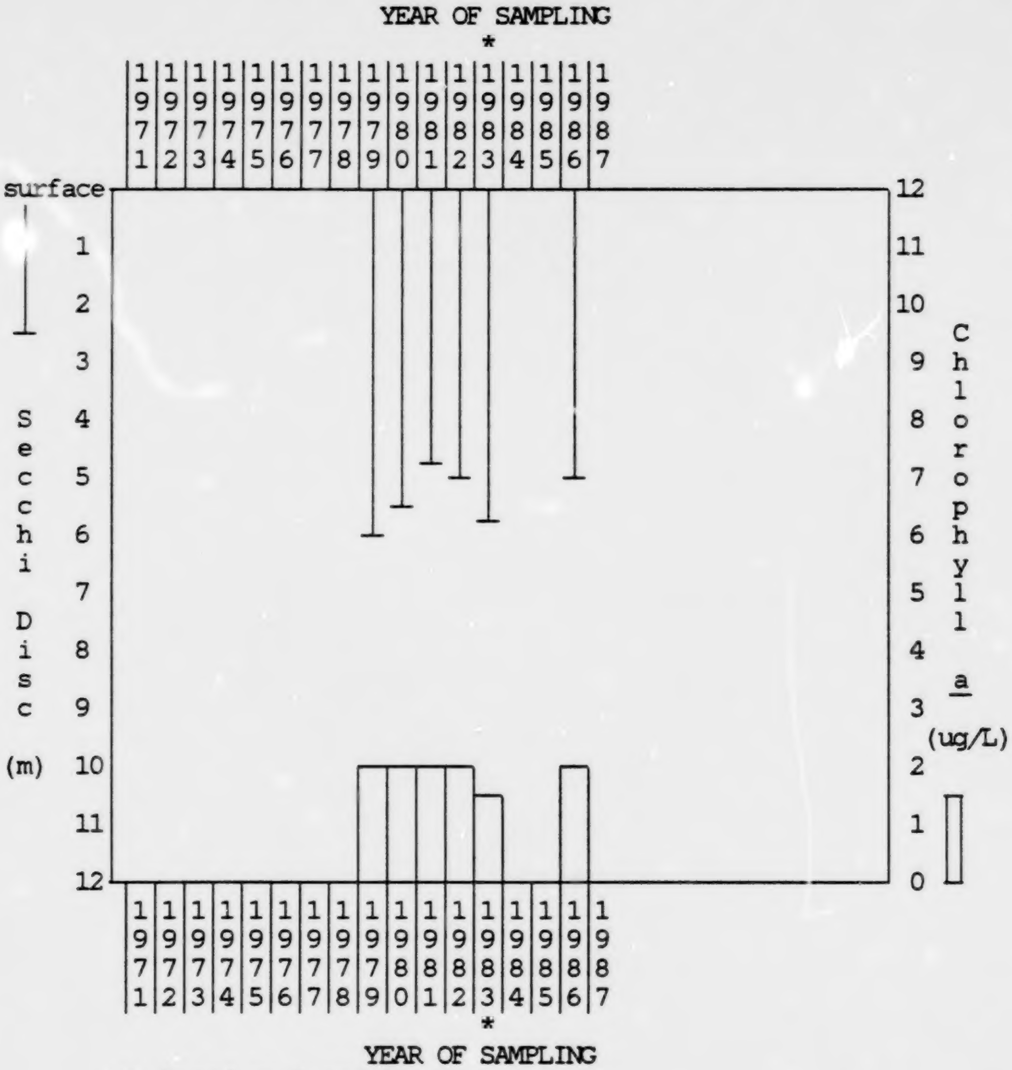
Figure 2 : Summary of results for Secchi disc (m) and chlorophyll a (ug/L) from Mountain Lake (North station) from 1979 to 1986. Seasonal mean data (more than 6 sampling dates) only. A minimum of 4 results was required for graphing.



We now have 6 years of reliable data for the North Station of Mountain Lake. The results indicate that the degree of water clarity has been consistently high and densities of suspended algae have been low for the period of record.

We hope that sampling continues in 1987 at this location to establish a long-term record of water quality for this station.

Figure 2 : Summary of results for Secchi disc (m) and chlorophyll a (ug/L) from Mountain Lake (South station) from 1979 to 1986. Seasonal mean data (more than 6 sampling dates) unless otherwise specified. A minimum of 4 results was required for graphing.



* based on 5 results

The 6 years of available data for the South station of Moot Lake indicate unenriched conditions.

The degree of water clarity has been high and the densities of suspended algae have been low for the period of record.

We hope that sampling continues in 1987 in order to establish a long-term record of water quality at this station.

MULDREW LAKE (page 1)

MUSKOKA, WOOD & MORRISON WARDS
TOWN OF GRAVENHURST

DISTRICT MUNICIPALITY OF
MUSKOKA

Table 1: Secchi Disc (m) and chlorophyll a (ug/L) data collected from Muldrew Lake in 1986

Station	Middle Muldrew Stn.3		South Muldrew Stn.4	
Date	S.D.	Chl.a	S.D.	Chl.a
May 24	2.75	1.8	2.75	2.1
June 8	3.0	2.4	3.0	2.4
June 21	3.25	1.6	3.75	1.3
July 1	2.75	1.9	3.5	1.2
July 20		3.9		NSS
July 27	3.5	4.6	3.75	4.7
Aug 3	3.6	2.0	3.75	2.5
Aug 10	3.25	5.9	4.0	5.6
Aug 24	3.5	4.2	3.5	2.7
Aug 31	3.5	NSS	4.125	NSS
	3.2	3.1	3.6	2.8

NSS - No suitable sample
For text see attached page.

FIGURE 1: The relationship between Secchi disc and chlorophyll a for Muldrew Lake in 1986 and a number of recreational lakes in Central Region. All data are seasonal averages.

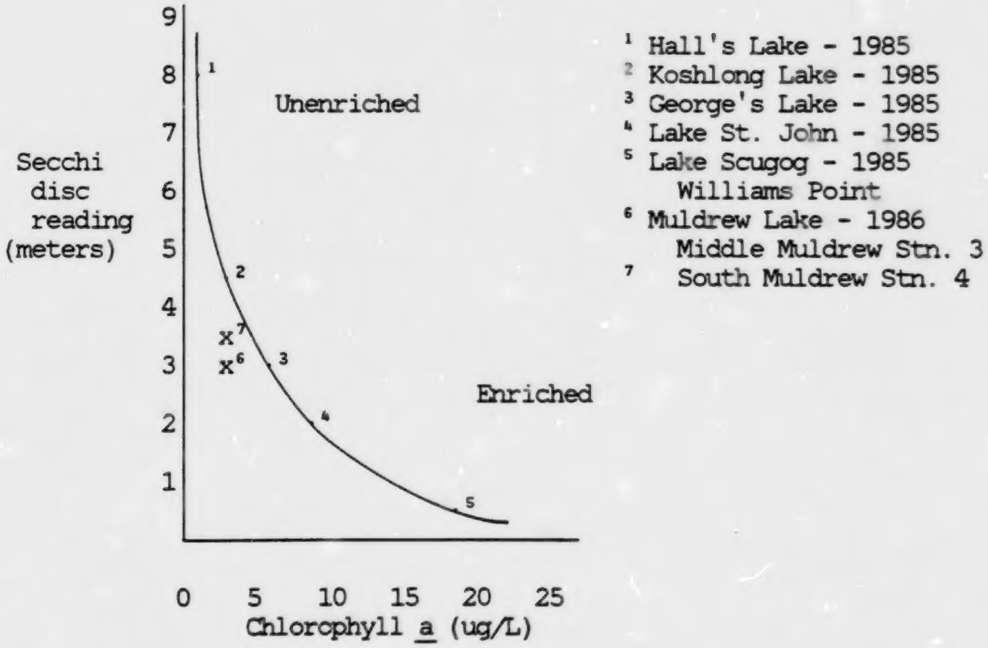
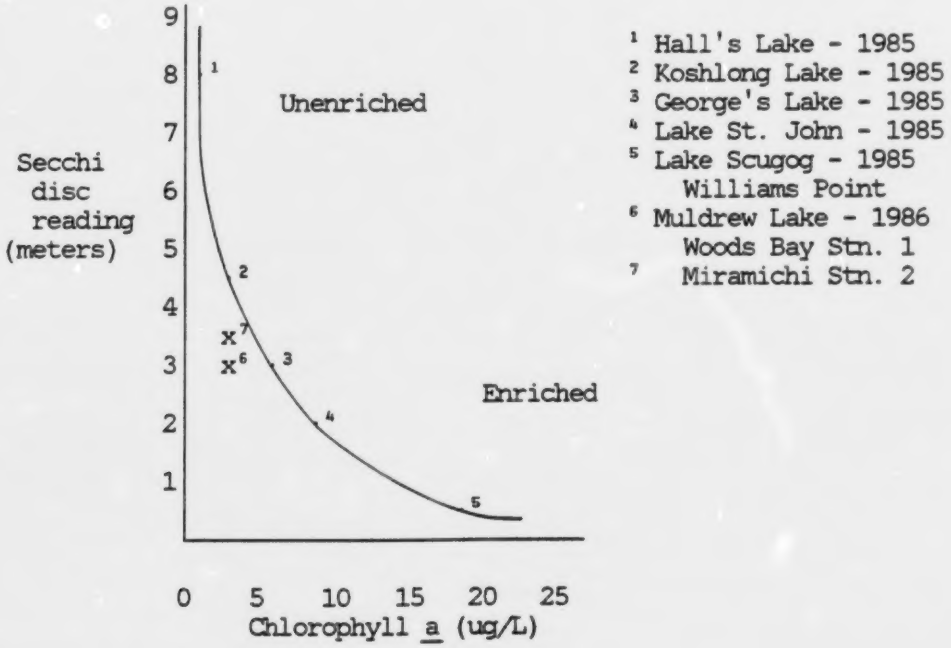


Table 1: Secchi Disc (m) and chlorophyll a (ug/L) data collected from Muldrew Lake in 1986

Station	North Stn.5		Woods Bay Stn.1		Miramichi Stn.2	
Date	S.D.	Chl.a	S.D.	Chl.a	S.D.	Chl.a
June 22			2.75	1.6	2.54	1.8
July 1	3.0	2.4				
July 10				3.6		6.4
July 27			3.5	4.6	3.75	4.7
Aug 3			3.6	2.0	3.75	2.5
Aug 10			3.0	4.1	3.0	3.4
Aug 17			2.79	3.3	2.72	3.7
Aug 31			3.5	NSS	4.125	NSS
			3.2	3.2	3.3	3.8

For text see attached page.

FIGURE 1: The relationship between Secchi disc and chlorophyll a for Muldrew Lake in 1986 and a number of recreational lakes in Central Region. All data are seasonal averages.



MULDREW LAKE (page 3)

TOWN OF GRAVENHURST

DISTRICT MUNICIPALITY OF
MUSKOKA

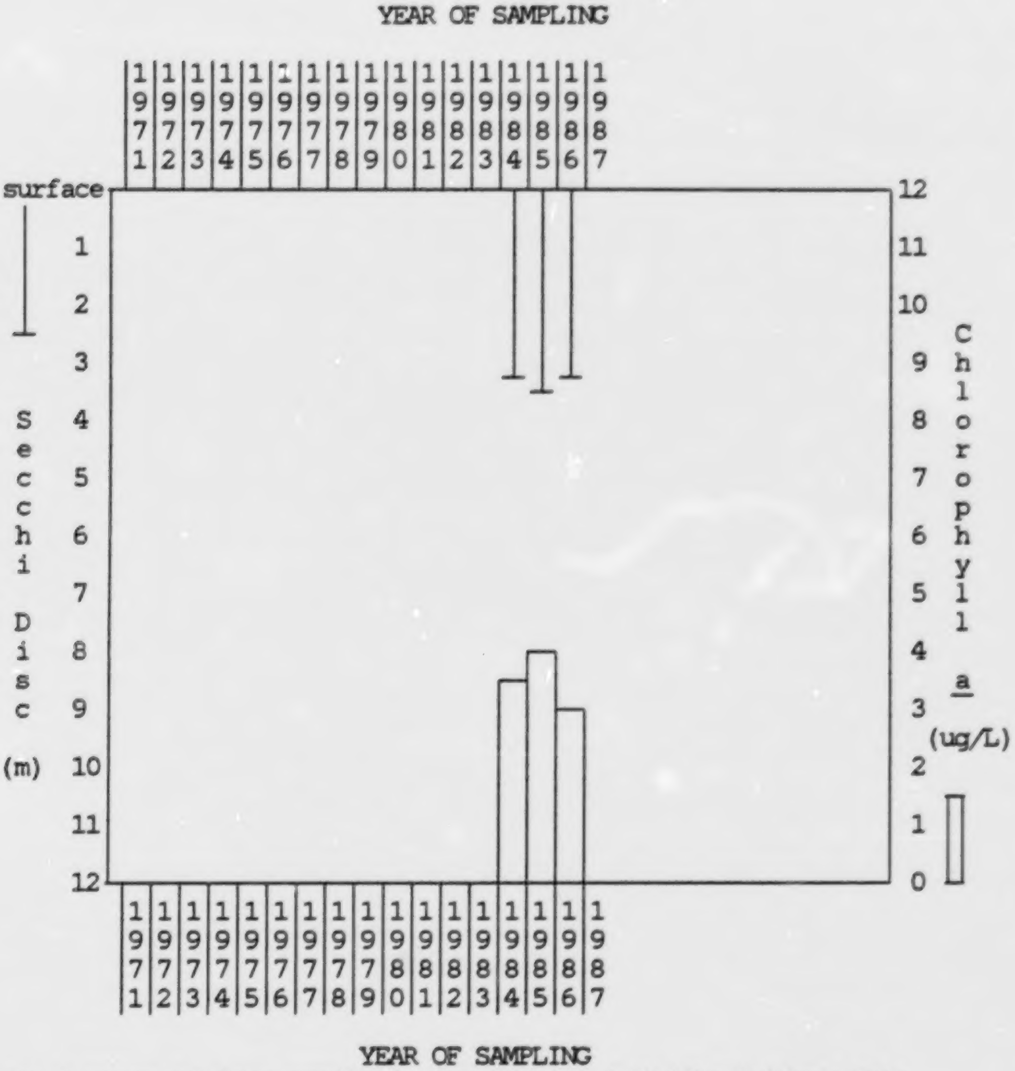
Another good sampling program was conducted on Muldrew Lake in 1986 with 10 sampling occasions at the Middle and South stations and 7 sampling occasions at Woods Bay and Miramichi stations. Insufficient sampling was done at the North station to obtain meaningful results.

Secchi disc readings were moderately low at all stations, averaging 3.2 m at Middle Muldrew, 3.6 m at South Muldrew, 3.2 m at Woods Bay and 3.3 m at Miramichi station. These values indicate a moderately low degree of water transparency.

Chlorophyll *a* concentrations were also similar at all stations, averaging 3.1 ug/L at Middle Muldrew, 2.8 ug/L at South Muldrew, 3.2 ug/L at Woods Bay and 3.8 ug/L at Miramichi station, indicating moderately high densities of suspended algae.

Based on these results, Muldrew Lake would be considered moderately enriched at all sampling stations.

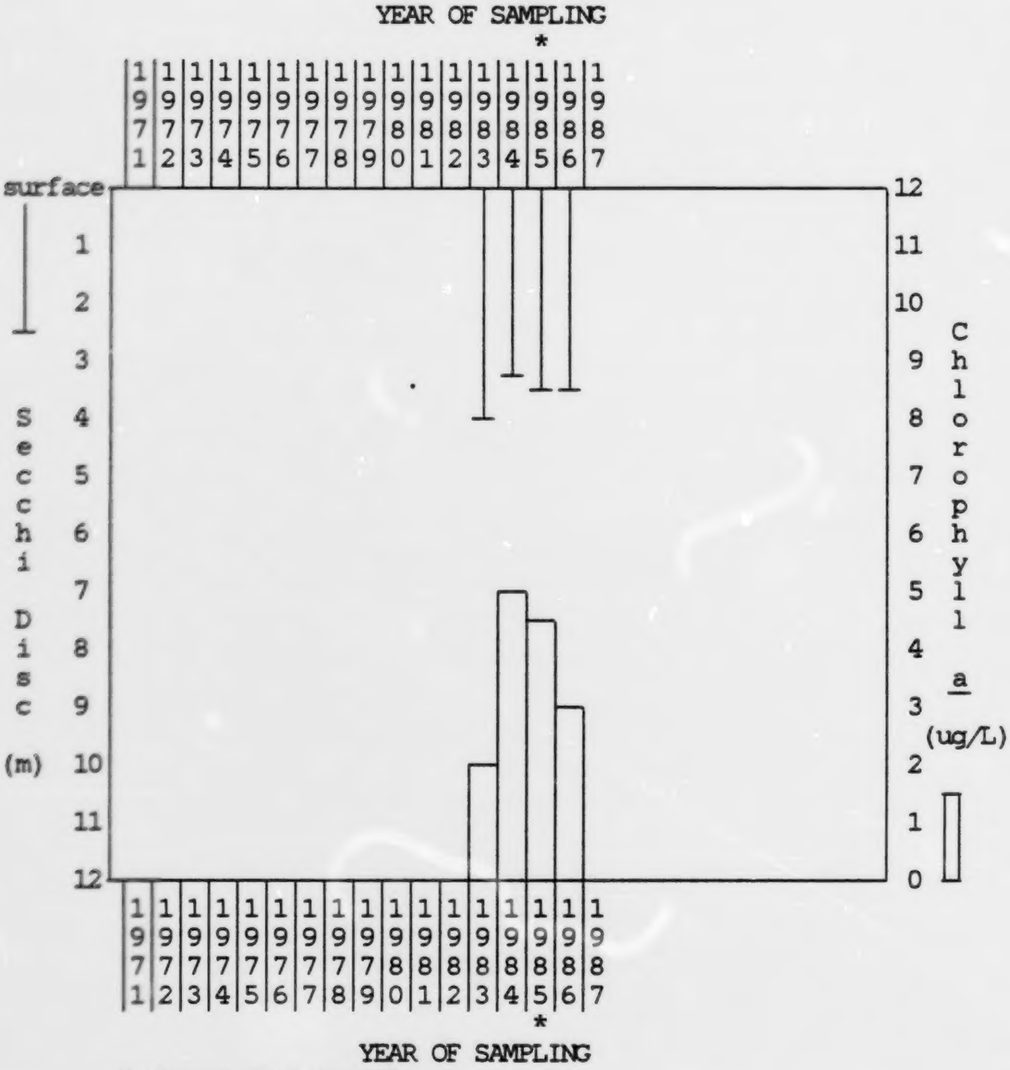
Figure 2 : Summary of results for Secchi disc (m) and chlorophyll a (ug/L) from Muldrew Lake (Middle Station 3) from 1984 to 1985. Seasonal mean data (more than 6 sampling dates) only.



The 3 years of data available for Station 3 Middle Muldrew Lake indicate moderately enriched conditions. The degree of water clarity has been moderately low, and the densities of suspended algae have been moderately high.

We hope sampling continues in 1987 to establish a long-term record of water quality for this station.

Figure 2 : Summary of results for Secchi disc (m) and chlorophyll a (ug/L) from Muldrew Lake (South Station 4) from 1983 to 1986. Seasonal mean data (more than 6 sampling dates) unless otherwise specified. A minimum of 4 results was required for graphing.

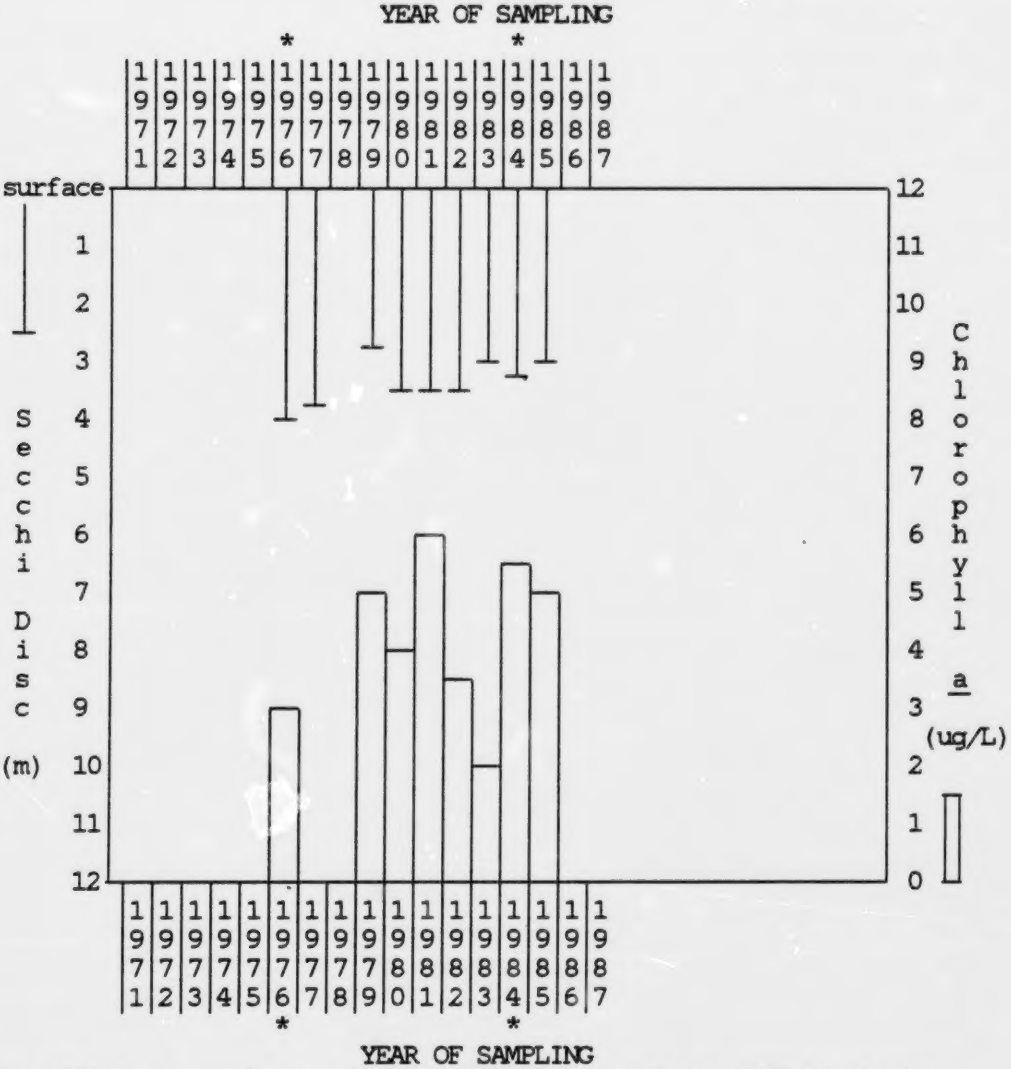


* based on 5 results

We now have 4 years of data for South station 4 on Muldrew Lake. The degree of water clarity has been moderately low during that time and densities of suspended algae have fluctuated from low to high. This reflects the moderately enriched conditions of the lake at this location.

We hope that you continue to sample for this program in 1987.

Figure 2 : Summary of results for Secchi disc (m) and chlorophyll a (ug/L) from Muldrew Lake (North Station 5) from 1977 to 1986. Seasonal mean data (more than 6 sampling dates) unless otherwise specified. A minimum of 4 results was required for graphing.



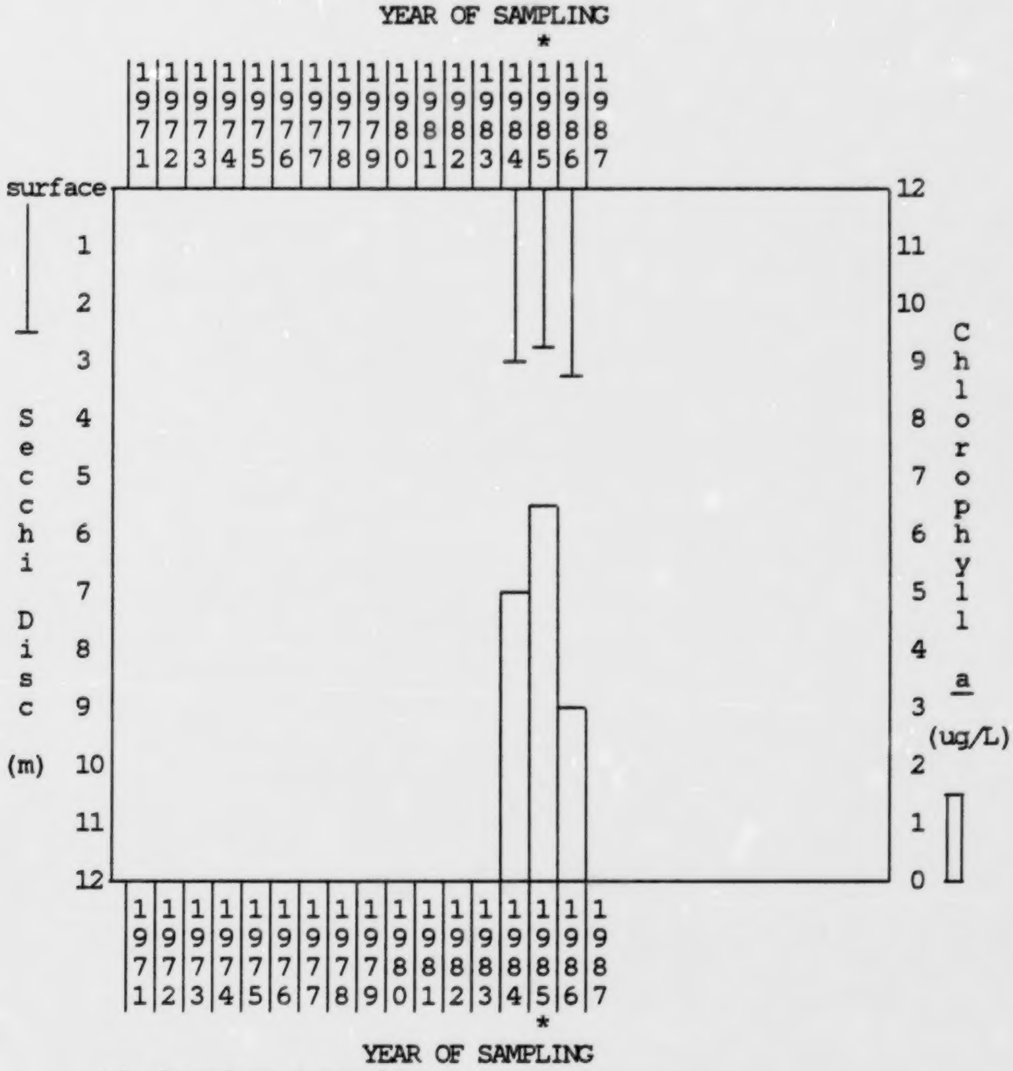
Insufficient sampling was done at this location in 1986 to obtain meaningful results. A very good long-term record of water quality has been established for the North station 5 of Muldrew Lake, from the previous years.

The degree of water clarity has been moderately low for most of that period with Secchi disc readings in the range of 2.7 m to 3.9 m. Densities of suspended algae have fluctuated from moderately low to high indicating that water quality conditions are moderately enriched to enriched at this location.

No obvious trends to indicate an overall change in water quality can be defined.

We hope that sampling is done in 1987, with increased frequency, to maintain the continuous water quality record for this station.

Figure 2 : Summary of results for Secchi disc (m) and chlorophyll a (ug/L) from Muldrew Lake (Woods Bay Station 1) from 1984 and 1986. Seasonal mean data (more than 6 sampling dates) unless otherwise specified. A minimum of 4 results was required for graphing.

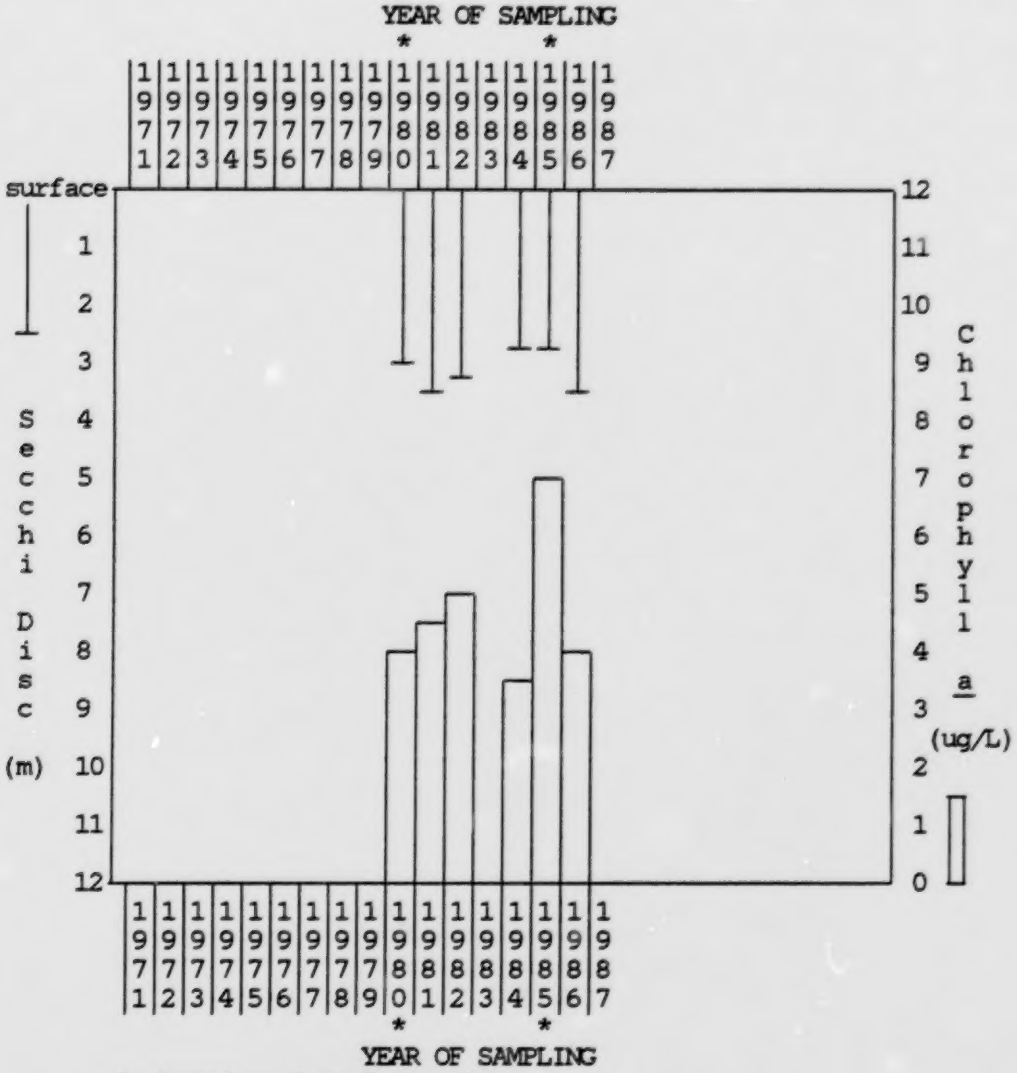


* based on 4 results

The 3 years of available data for the Woods Bay station of Muldrew Lake indicate enriched conditions with a low degree of water clarity and high to moderate densities of suspended algae.

We hope that sampling continues at this station in 1987, in order to establish a long-term record of water quality.

Figure 2 : Summary of results for Secchi disc (m) and chlorophyll a (ug/L) from Muldrew Lake (Miramichi Station 2) from 1981 to 1986. Seasonal mean data (more than 6 sampling dates) unless otherwise specified. A minimum of 4 results was required for graphing.



* based on 4 or 5 results

Sampling at Miramichi station 2 has been done for 6 years.
These results indicate a low degree of water clarity and high to moderately high densities of suspended algae, indicating enriched conditions.
We hope that you continue to sample in 1987 to maintain the record of water quality for this station.

MUSKOKA BAY

MUSKOKA WARD
TOWN OF GRAVENHURST

DISTRICT MUNICIPALITY OF MUSKOKA

Table 1: Secchi Disc (m) and chlorophyll a (ug/L) data collected from Muskoka Bay in 1986

Station	Parker's Point		Cliff Rock		Centre Bay	
Date	S.D.	Chl.a	S.D.	Chl.a	S.D.	Chl.a
July 1	4.1	2.1	4.0	2.5	4.0	3.5
Aug 4	3.3	1.6	3.0	1.5	3.7	9.2

Insufficient sampling was done on Muskoka Bay in 1986 to obtain meaningful results.
If sampling continues in 1987, we recommend increasing the sampling frequency to at least 6 occasions, if possible.

FIGURE 1: The relationship between Secchi disc and chlorophyll a for Muskoka Bay in 1986 and a number of recreational lakes in Central Region. All data are seasonal averages.

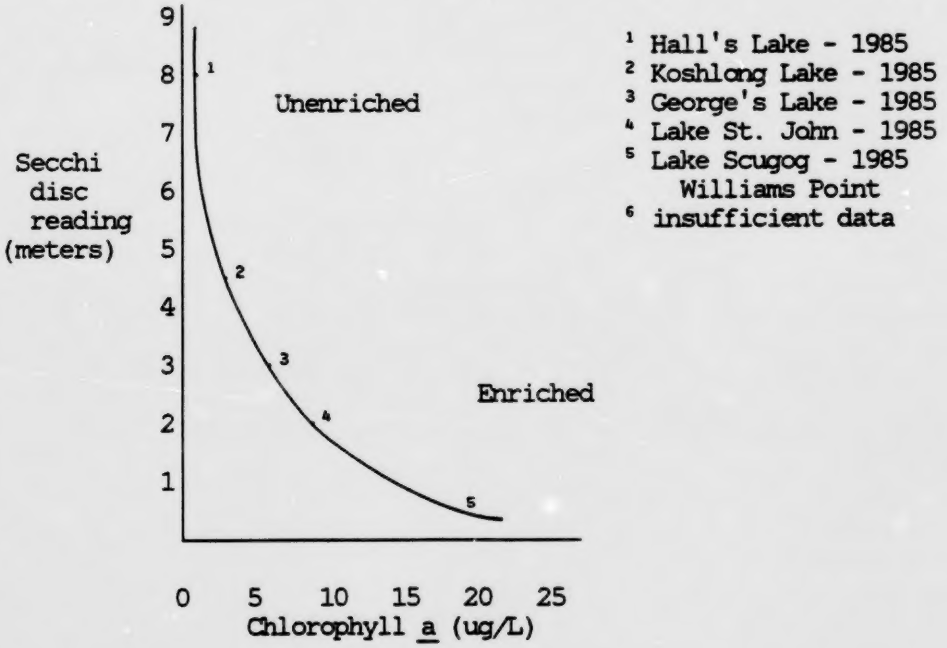
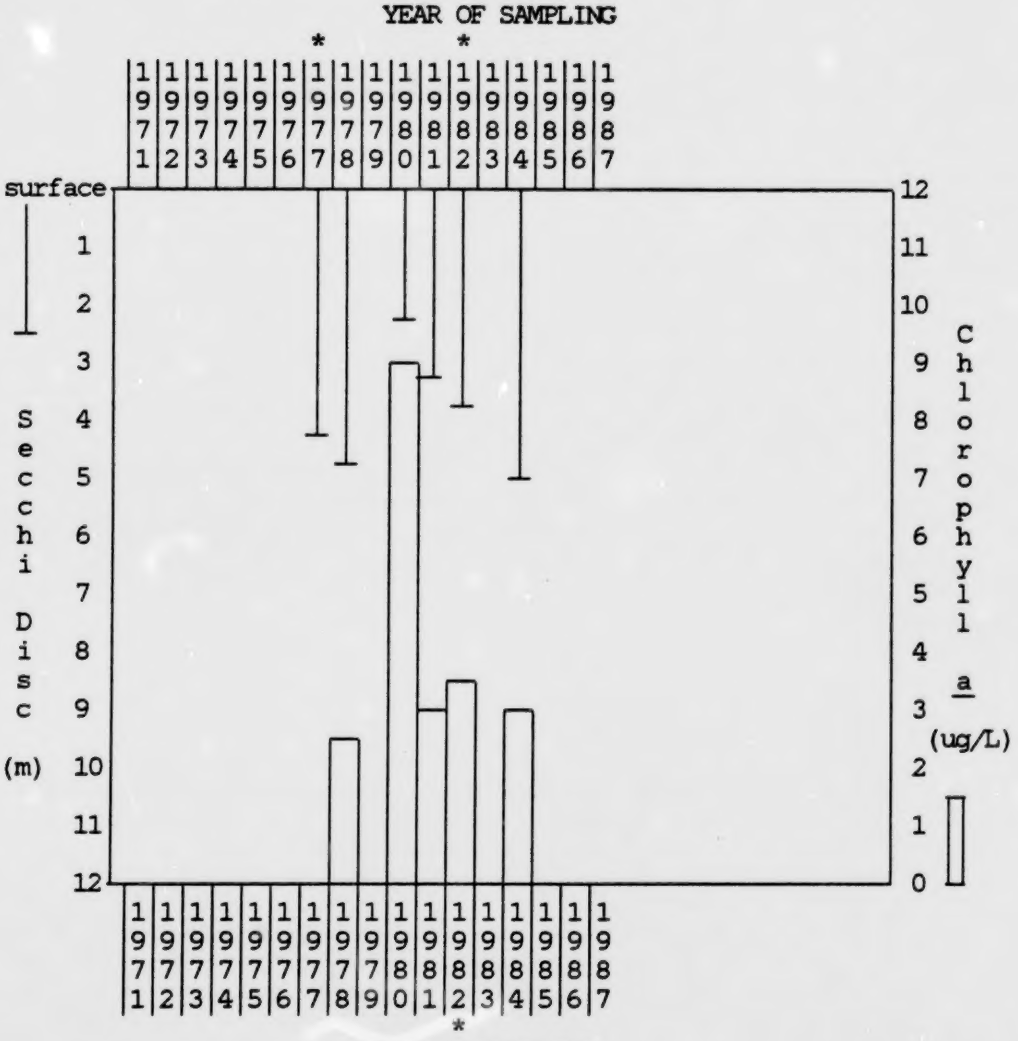


Figure 2 : Summary of results for Secchi disc (m) and chlorophyll a (ug/L) from Muskoka Bay (Parker's Point) from 1978 to 1986 Seasonal mean data (more than 6 sampling dates) unless otherwise specified. A minimum of 4 results was required for graphing.



* based on 4 or 5 results

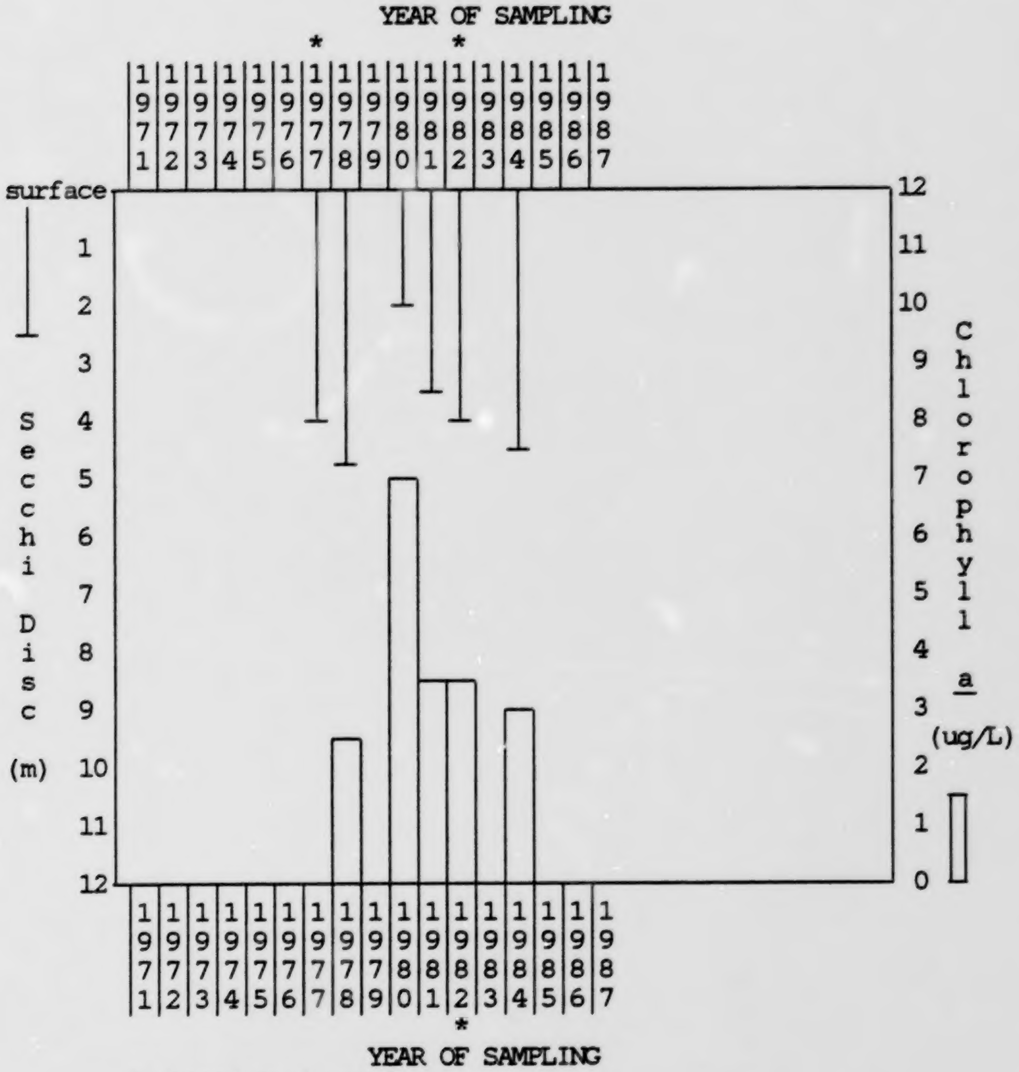
Insufficient sampling was done in 1985 and 1986 to obtain meaningful results.

The 6 years of available data from the Parker's Point station on Muskoka Bay indicate that the degree of water clarity has usually been moderately high except for 1980 when the clarity was low.

Densities of suspended algae have usually been moderate with high densities in 1980 as the result of an algae bloom.

We hope that sampling is done at this station in 1987 with increased frequency.

Figure 2 : Summary of results for Secchi disc (m) and chlorophyll a (ug/L) from Muskoka Bay (Cliff Rock) from 1978 to 1986. Seasonal mean data (more than 6 sampling dates) unless otherwise specified. A minimum of 4 results was required for graphing.



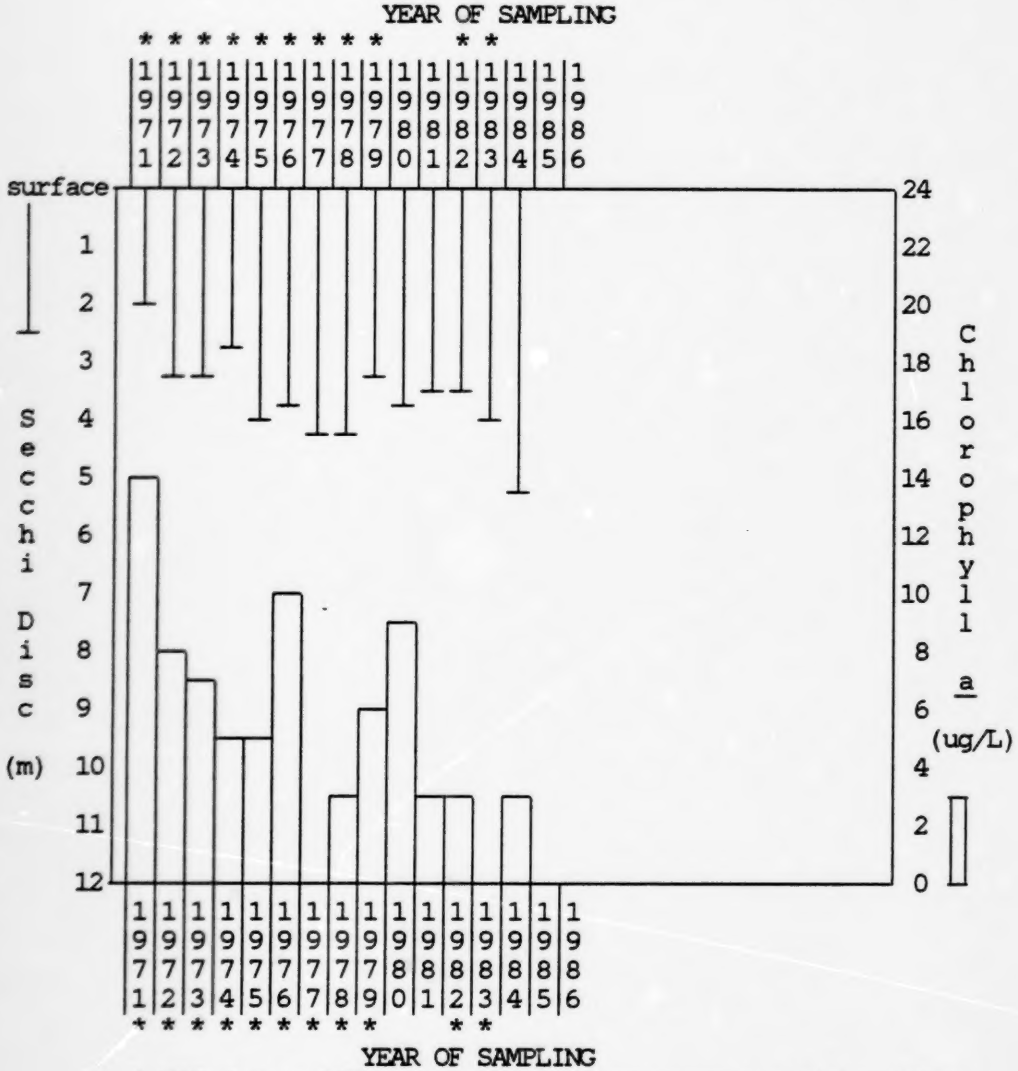
* based on 4 results

Insufficient sampling was done at this station in 1985 and 1986 to obtain meaningful results.

Past results indicate generally moderately enriched conditions with a moderate degree of water clarity and moderate densities of suspended algae. There are occasions, such as 1980, when data indicates enriched conditions.

We hope that sampling continues in 1987 with increased frequency.

Figure 2 : Summary of results for Secchi disc (m) and chlorophyll a (ug/L) from Muskoka Bay (Centre) from 1971 to 1986. Seasonal mean data (more than 6 sampling dates) unless otherwise specified. A minimum of 4 results was required for graphing.



* MOE data - 1971 chlorophyll a concentration higher than scale

Insufficient sampling was done in 1985 and 1986 to obtain meaningful results. Based on the past 14 years of available data from the Centre station in Muskoka Bay, the densities of suspended algae appear to be degreasing. The degree of water clarity has generally been moderate for the period of record. In 1971, a low degree of clarity was observed and in 1984 a high degree of clarity was recorded.

Densities of suspended algae in Muskoka Bay have fluctuated widely but have been generally high with periodic algae blooms.

We hope that sampling is done at this station in 1987 with increased frequency in order to continue the long-term record of water quality.

OAK LAKE

BELMONT & METHUEN TOWNSHIPS

PETERBOROUGH COUNTY

Table 1: Secchi Disc (m) and chlorophyll a (ug/L) data collected from Oak Lake in 1986

Station	Jean P Island		Trout Island		North Bay	
Date	S.D.	Chl.a	S.D.	Chl.a	S.D.	Chl.a
June 8	4.0	2.1	4.5	2.0	3.5	1.7
July 1	3.5	2.1	3.5	2.7	4.0	2.6
July 20	3.5	3.7	3.5	3.0	3.5	1.8
Aug 4	3.5	4.0	4.0	3.3	3.5	3.7
Aug 17	3.5	2.5	3.75	2.5	3.5	2.4
Sept 1	3.5	3.9	3.5	3.3	3.75	3.8
	3.6	3.1	3.8	2.8	3.6	2.7

A good sampling program was done on Oak Lake in 1986, with 6 sampling occasions at three stations.
Secchi disc readings were similar for each station, averaging 3.6 m at Jean P Island and North Bay and 3.8 m at Trout Island, indicating moderately low water clarity.
Chlorophyll a concentrations were also similar, averaging 3.1 ug/L at Jean P Island, 2.8 ug/L at Trout Island and 2.7 ug/L at North Bay, indicating moderate densities of suspended algae. Based on the 1986 results, Oak Lake would be considered moderately enriched.

FIGURE 1: The relationship between Secchi disc and chlorophyll a for Oak Lake in 1986 and a number of recreational lakes in Central Region. All data are seasonal averages.

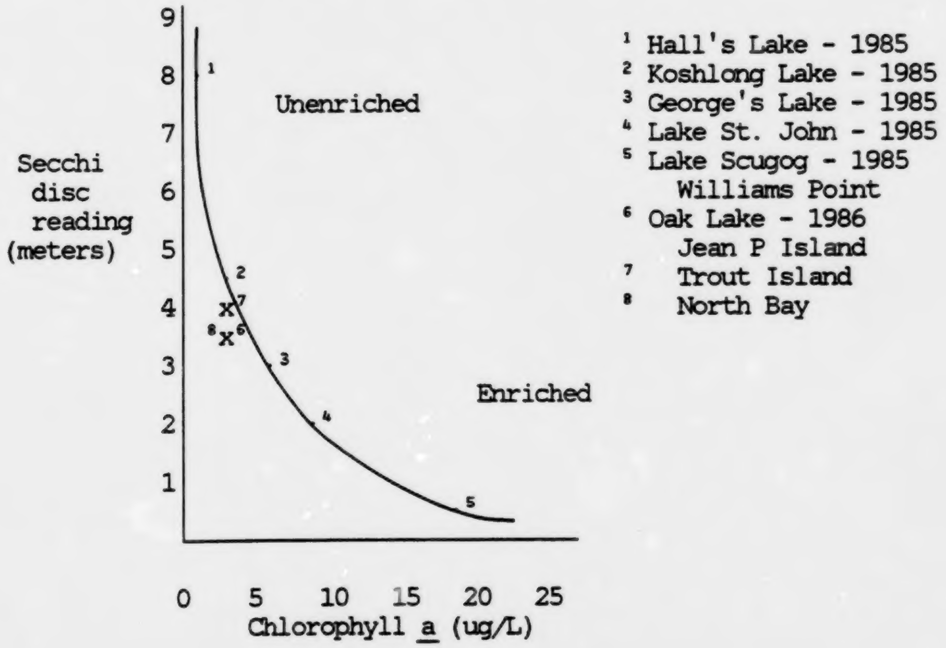
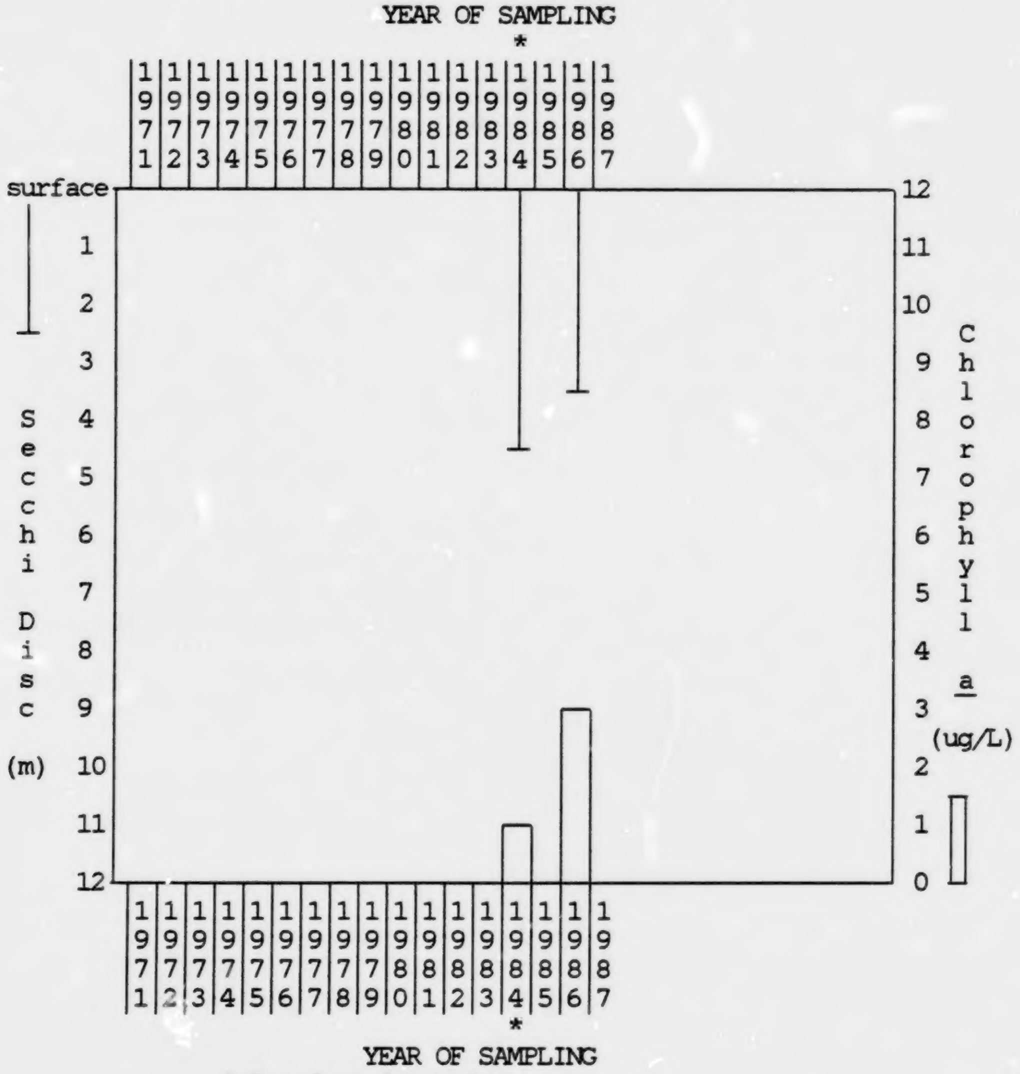


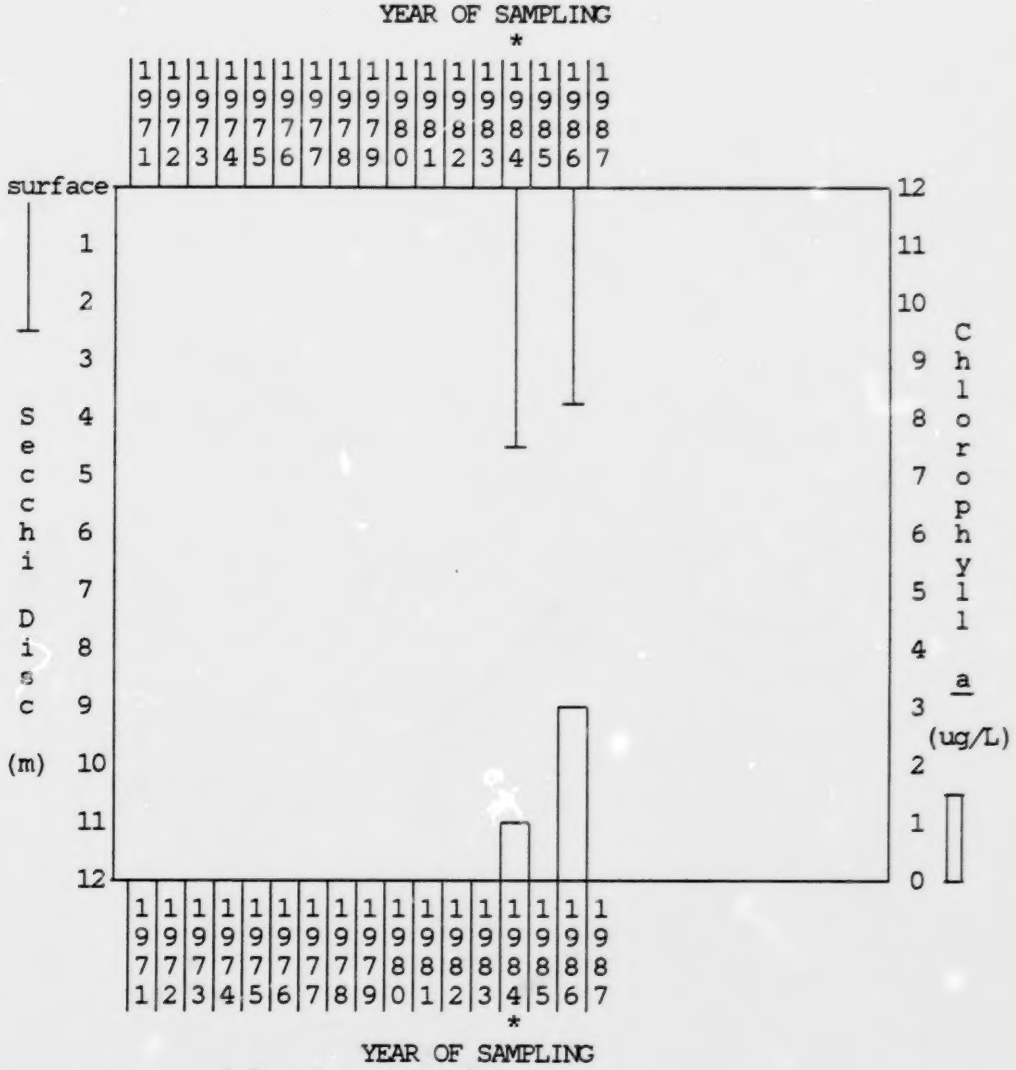
Figure 2 : Summary of results for Secchi disc (m) and chlorophyll a (ug/L) from Oak Lake (Jean Island) in 1984 and 1986. Seasonal mean data (more than 6 sampling dates) only. A minimum of 4 results was required for graphing.



* Based on 4 samples

Since only 2 years of reliable data are available, we are unable to comment on the long-term water quality trends.
We hope sampling continues in 1987 to establish a long-term record of water quality at this location.

Figure 2 : Summary of results for Secchi disc (m) and chlorophyll a (ug/L) from Oak Lake (Trout Island) in 1984 and 1986. Seasonal mean data (more than 6 sampling dates) only. A minimum of 4 results was required for graphing.

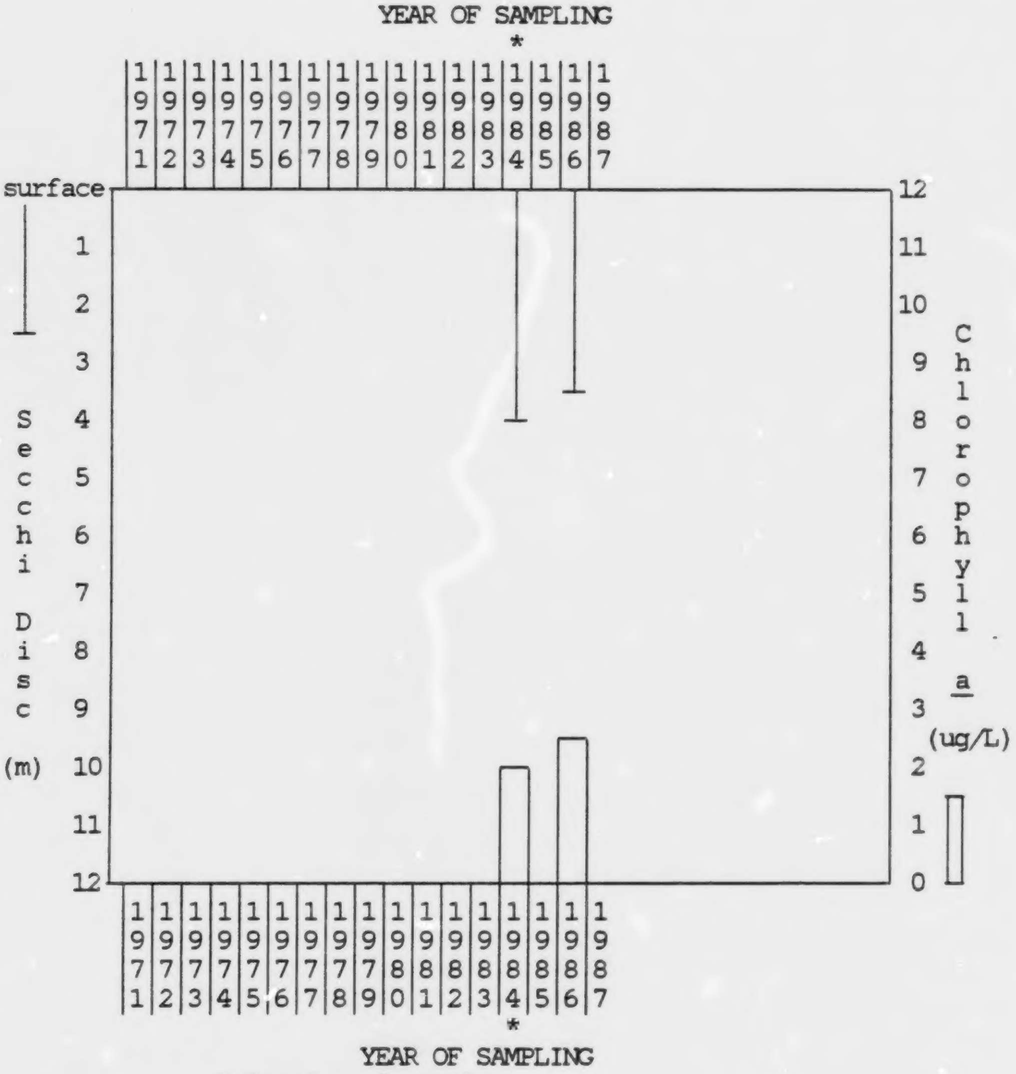


* Based on 4 samples

Since only 2 years of reliable data is available for the Trout Island station on Oak Lake, we are unable to comment on the long-term water quality trends.

We hope sampling continues in 1987 to establish a long-term record of water quality.

Figure 2 : Summary of results for Secchi disc (m) and chlorophyll a (ug/L) from Oak Lake (North Bay) from 1984 and 1986. Seasonal mean data (more than 6 sampling dates) only. A minimum of 4 results was required for graphing.



* Based on 4 samples.

Since only 2 years of reliable data is available for the North Bay station of Oak Lake, we are unable to comment on the long-term water quality trends.

We hope that sampling continues in 1987 to establish a long-term record of water quality at this location.

OTTER LAKE

SHERBORNE TOWNSHIP

HALIBURTON COUNTY

Table 1: Secchi Disc (m) and chlorophyll a (ug/L) data collected from Otter Lake in 1986

Station	East End		West End	
Date	S.D.	Chl.a	S.D.	Chl.a
Aug 14	7.25	4.7	7.0	3.1
Aug 28	6.9	3.4	5.9	3.8

Insufficient sampling was done on Otter Lake in 1986 to obtain meaninful results.
If sampling continues in 1987, we recommend increasing the sampling frequency to at least 6 occasions at each station.

FIGURE 1: The relationship between Secchi disc and chlorophyll a for Otter Lake in 1986 and a number of recreational lakes in Central Region. All data are seasonal averages.

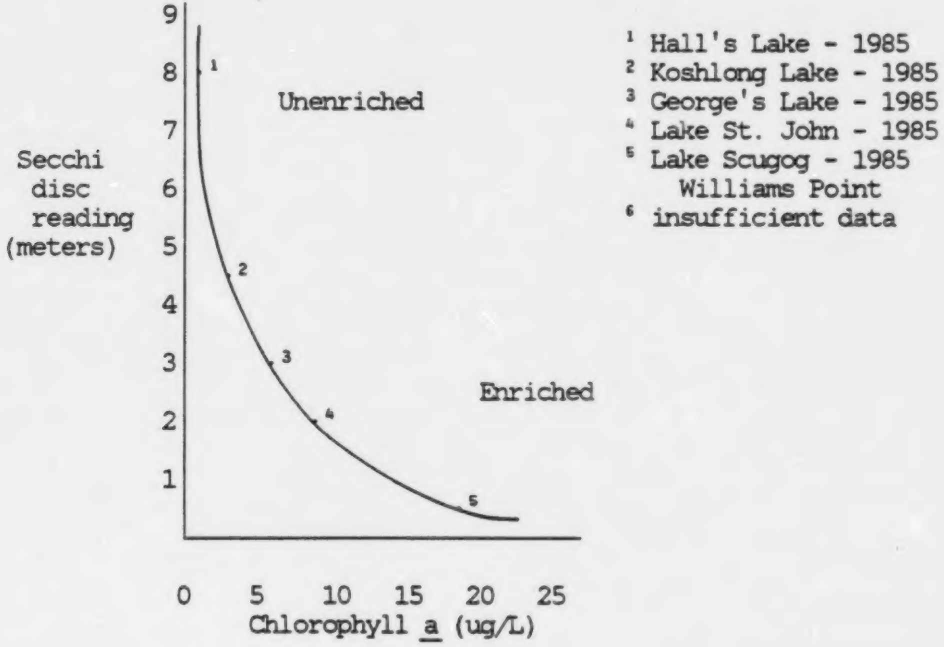
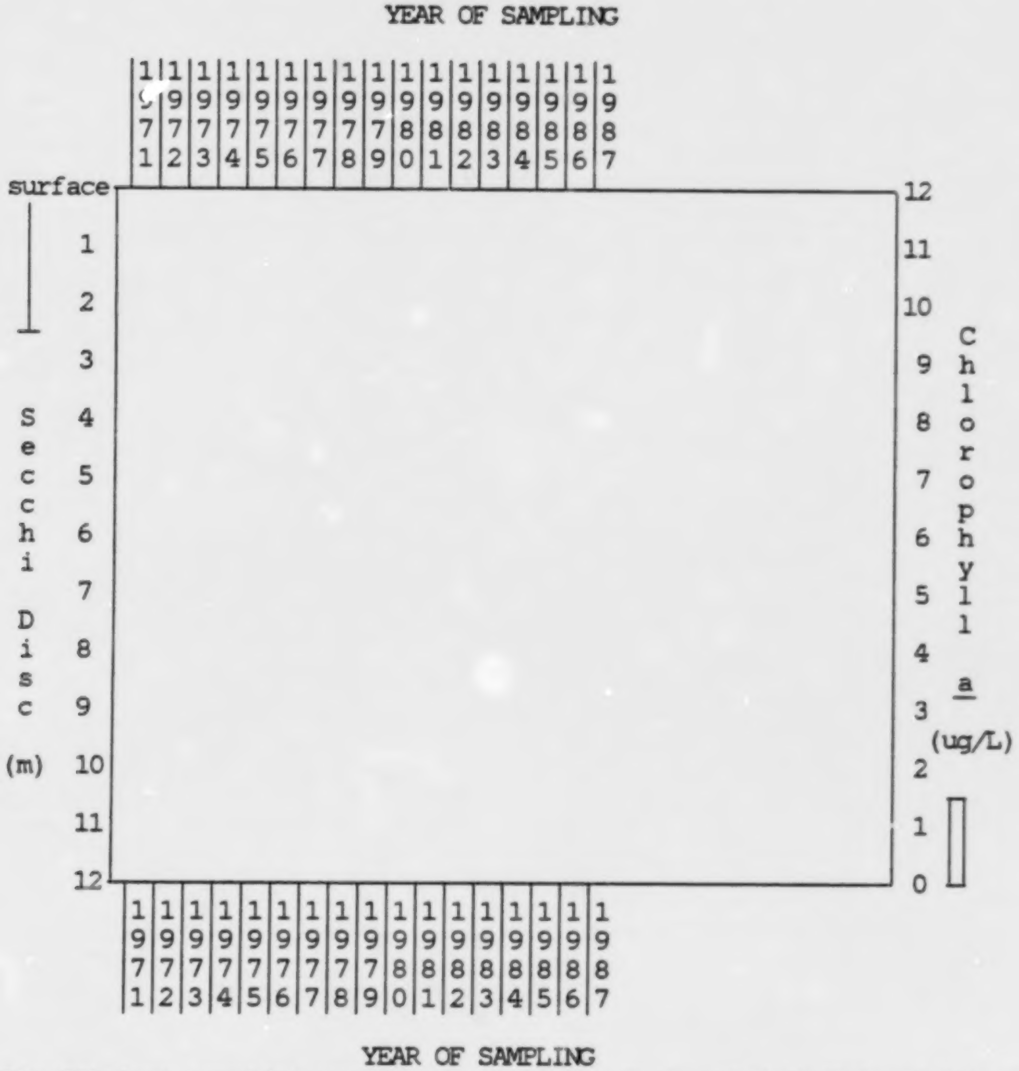


Figure 2 : Summary of results for Secchi disc (m) and chlorophyll a (ug/L) from Otter Lake in 1986.
Seasonal mean data (more than 6 sampling dates) only.
A minimum of 4 results was required for graphing.



Insufficient sampling was done at both the East and West Ends of Otter Lake in 1986 to graph the results.
We hope sampling continues in 1987 with increased frequency in order to establish a long-term record of water quality.

PENINSULA LAKE

SINCLAIR & FRANKLIN WARDS
TOWNSHIP OF LAKE OF BAYS

DISTRICT MUNICIPALITY OF
MUSKOKA

Table 1: Secchi Disc (m) and chlorophyll a (ug/L) data collected from Peninsula Lake in 1986

Station Date	Wolf Bay S.D.	 Chl.a	Deerhurst S.D.	 Chl.a
May 25	4.5	1.3	4.5	2.1
July 16	5.5	NSS	6.0	NSS
July 20	5.5	10.7	6.0	5.3
Aug 9	5.5	1.8	6.0	1.9
Aug 16	6.0	NSS	6.25	2.2
	5.4	4.6	5.75	2.9

NSS -No suitable sample

Sampling was done on 5 occasions on Peninsula Lake in 1986. Secchi disc readings were similar at both stations, averaging 5.4 m at Wolf Bay and 5.75 m at Deerhurst, indicating a high degree of water clarity. Chlorphyll a concentrations ranged from 1.3 to 10.7 ug/L at Wolf Bay (based on only 3 samples), indicating an algae bloom in late July. Chlorophyll a concentrations ranged from 1.9 to 5.3 ug/l and averaged 2.9 ug/L at Deerhurst, indicating moderate densities of suspended algae, with a bloom in late July. Based on these results, Peninsula Lake would be considered borderline between moderately enriched and unenriched, with good water quality, but periodically high densities of suspended algae. If sampling is done in 1986, we recommend the sampling be done on Sunday for delivery to the lab on Monday.

FIGURE 1: The relationship between Secchi disc and chlorophyll a for Peninsula Lake in 1986 and a number of recreational lakes in Central Region. All data are seasonal averages.

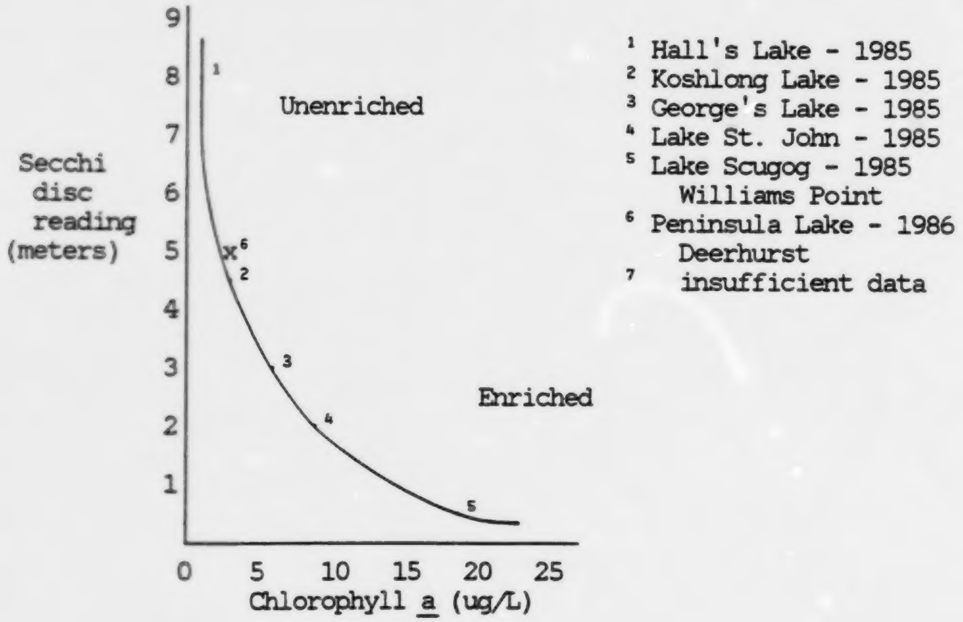
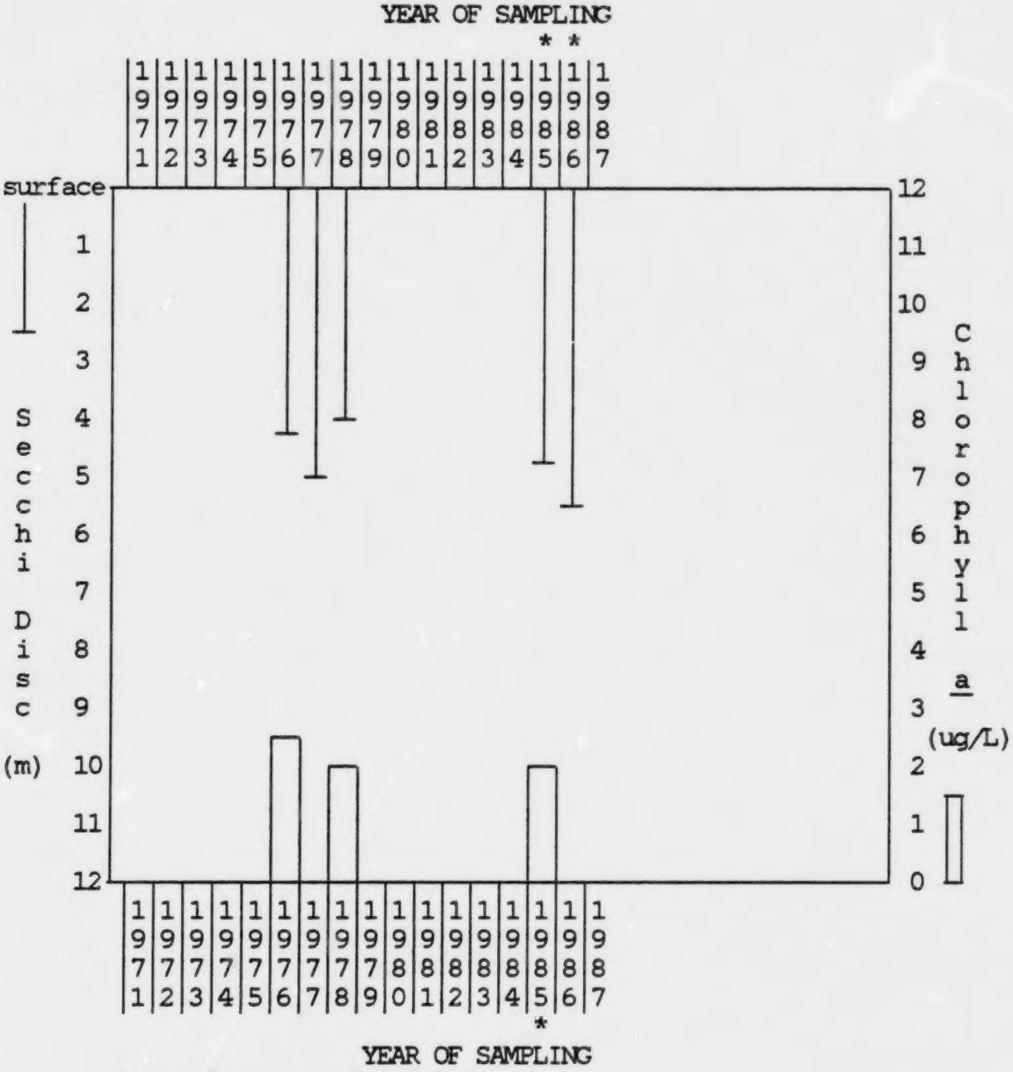


Figure 2 : Summary of results for Secchi disc (m) and chlorophyll a (ug/L) from Peninsula Lake (Wolf Bay) from 1976 to 1986. Seasonal mean data (more than 6 sampling dates) unless otherwise specified. A minimum of 4 results was required for graphing.



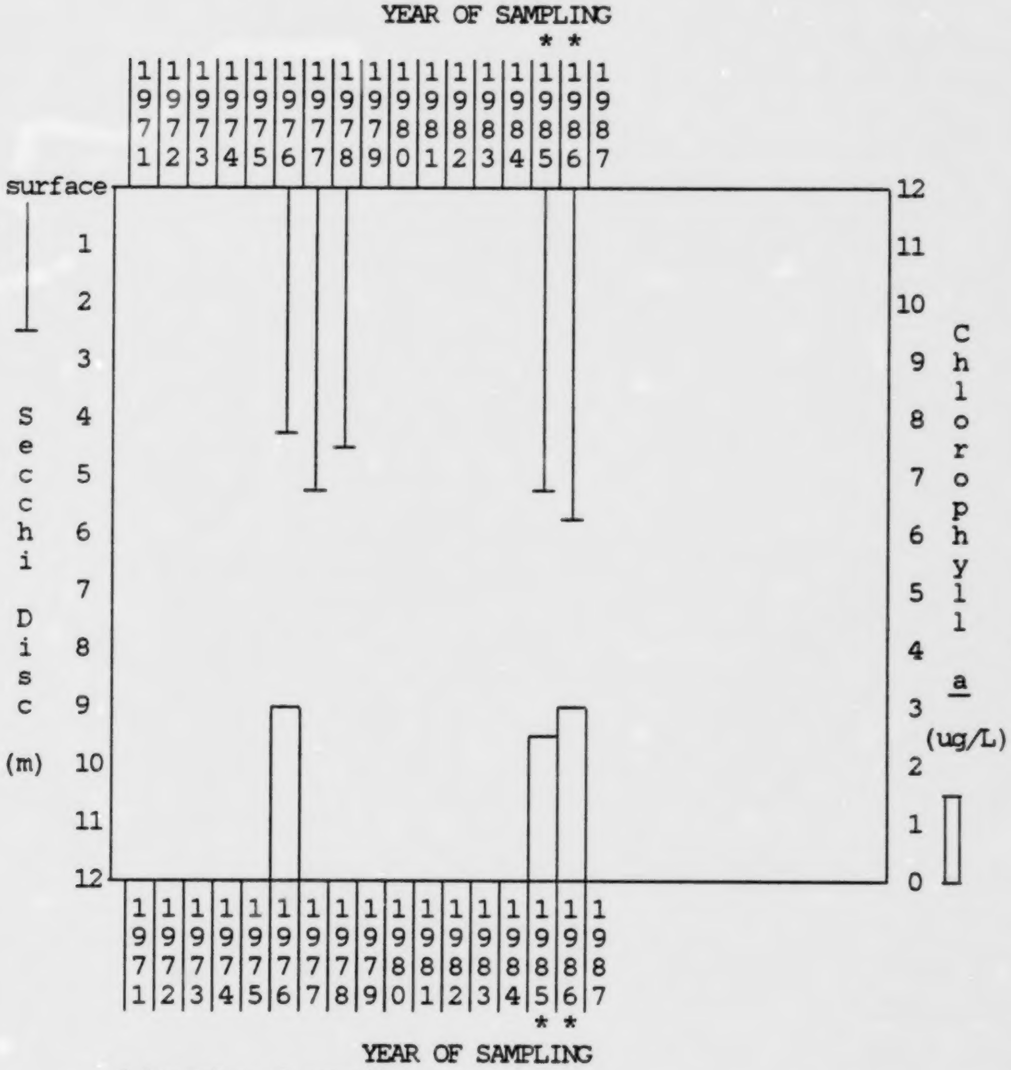
* based on 4 or 5 results

The 5 years of available data for Wolf Bay of Peninsula Lake indicate moderately enriched conditions with no change in water quality since 1976.

The degree of water clarity has been moderately high and densities of suspended algae have been moderately low for the period of record, except for 1986 when densities of algae were moderately high.

We hope that sampling continues at this station in 1987 with increased frequency.

Figure 2 : Summary of results for Secchi disc (m) and chlorophyll a (ug/L) from Peninsula Lake (Deerhurst) from 1976 to 1986. Seasonal mean data (more than 6 sampling dates) unless otherwise specified. A minimum of 4 results was required for graphing.



* based on 4 results

The 5 years of data for the Deerhurst station on Peninsula Lake indicate that the degree of water clarity has been moderately high and densities of suspended algae have been moderately low for the period of record.

We hope that sampling is done in 1987 at this station, with increased frequency.

PERCY LAKE

HARBURN TOWNSHIP

COUNTY OF HALIBURTON

Table 1: Secchi Disc (m) and chlorophyll a (ug/L) data collected from Percy Lake in 1986

Station	Main	
Date	S.D.	Chl.a
June 29	4.6	1.3
July 6	4.3	1.4
July 20	4.0	L 0.1
July 27	5.0	2.6
Aug 10	5.0	2.1
Aug 17		3.9
	-----	-----
	4.6	2.3 *
	-----	-----

* based on only 5 samples

L - Less than

Sampling was done on 6 occasions on Percy Lake in 1986.
Secchi disc readings ranged from 4.0 to 5.0 m and averaged 4.6 m, indicating moderately high water transparency.
Chlorophyll a concentrations ranged from 0.1 to 3.9 ug/l and averaged 2.3 ug/L, indicating moderately low densities of suspended algae.
Based on these results, Percy Lake would be considered moderately enriched with good water quality.

FIGURE 1: The relationship between Secchi disc and chlorophyll a for Percy Lake in 1986 and a number of recreational lakes in Central Region. All data are seasonal averages.

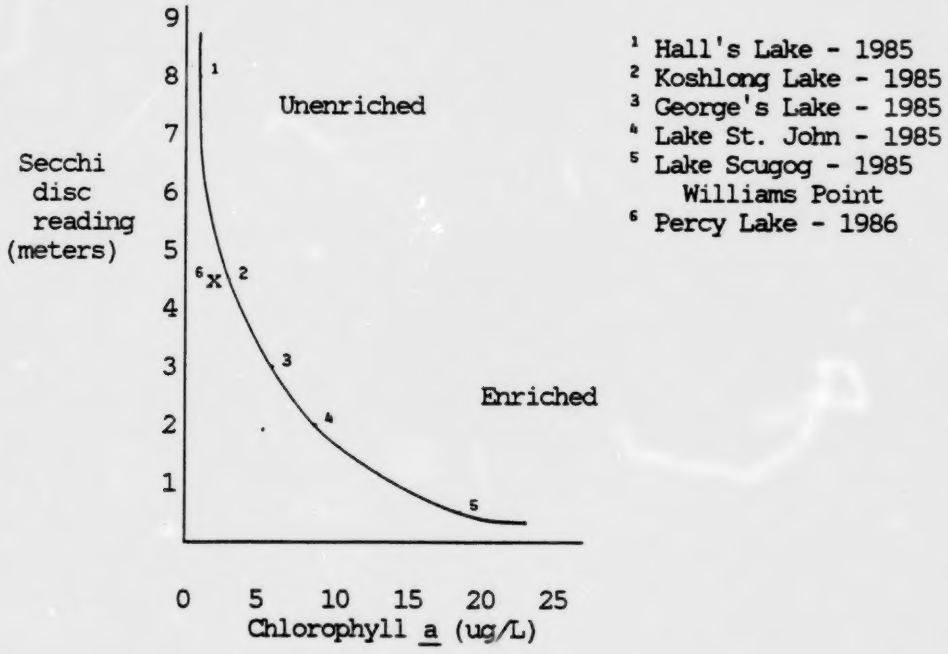
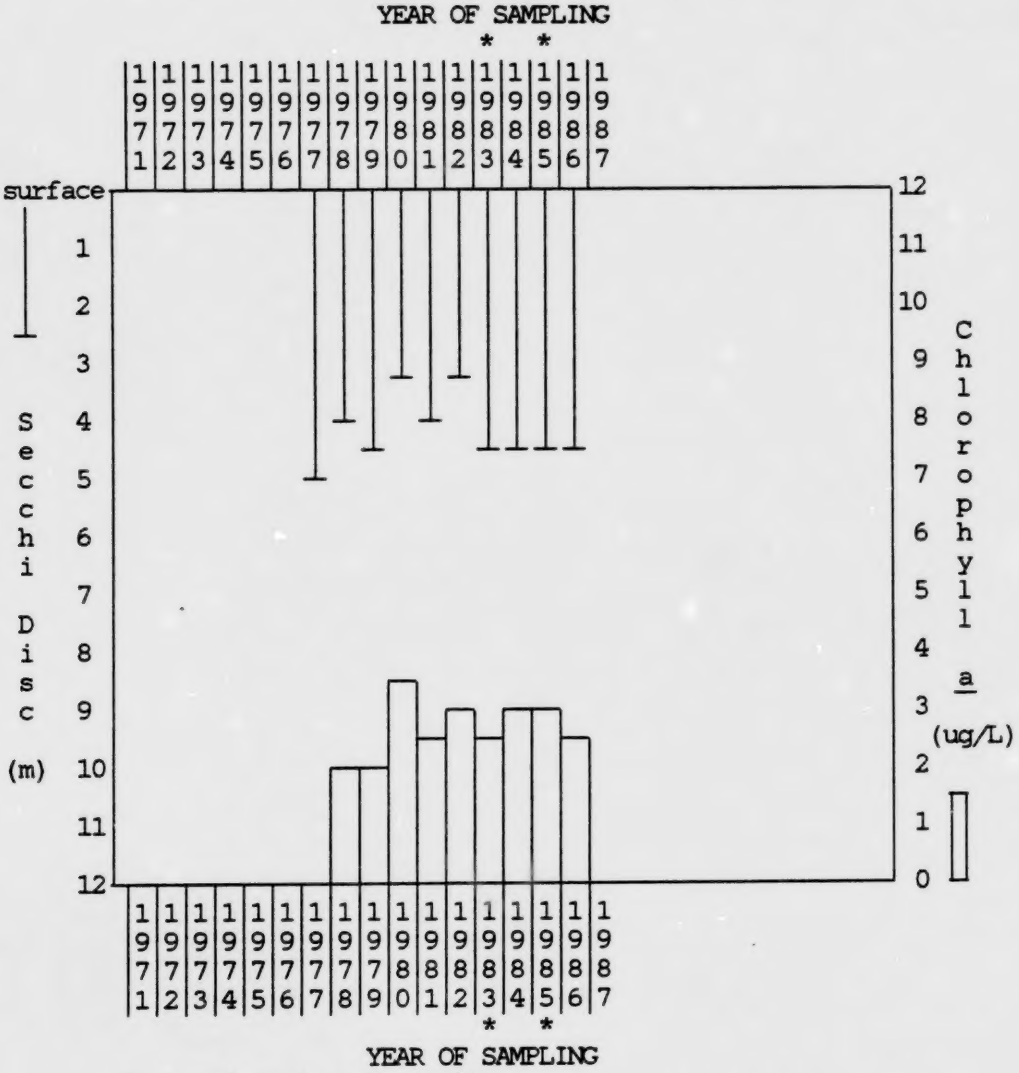


Figure 2 : Summary of results for Secchi disc (m) and chlorophyll a (ug/L) from Percy Lake from 1977 to 1986. Seasonal mean data (more than 6 sampling dates) unless otherwise specified. A minimum of 4 results was required for graphing.



* based on 4 or 5 results

A good historical record of water quality has been established for Percy Lake with 10 years of data.
The degree of water clarity has usually been moderately high with average Secchi disc readings ranging from 3 to 5 m.
Densities of suspended algae have been moderately low.
There has been no change in water quality in Percy Lake since 1977.
We hope that sampling continues in 1987 at this location to maintain the continuous record of water quality.

PINE LAKE

OAKLEY WARD
TOWN OF BRACEBRIDGE

DISTRICT MUNICIPALITY OF
MUSKOKA

Table 1: Secchi Disc (m) and chlorophyll a (ug/L) data collected from Pine Lake in 1986

Station	Southeast		East	
Date	S.D.	Chl.a	S.D.	Chl.a
July 6	2.0	2.7	2.5	2.1
Aug 10	3.0	0.1	3.0	2.0
Sept 2	4.0	2.7	4.0	4.0
Sept 26	3.0	2.3	3.0	2.1
	3.0	2.0	3.1	2.6

Sampling was done on only 4 occasions on Pine Lake in 1986. Secchi disc readings were similar at both stations, averaging 3.0 m at the Southeast station and 3.1 m at the East station, indicating a moderately low degree of water transparency. Chlorophyll a concentrations averaged 2.0 ug/L at the Southeast station and 2.6 ug/L at the East station, indicating moderately low densities of suspended algae. Based on these results, Pine Lake would be considered moderately enriched. If sampling continues in 1987, we recommend increasing the sampling frequency to at least 6 occasions if possible.

FIGURE 1: The relationship between Secchi disc and chlorophyll a for Pine Lake in 1986 and a number of recreational lakes in Central Region. All data are seasonal averages.

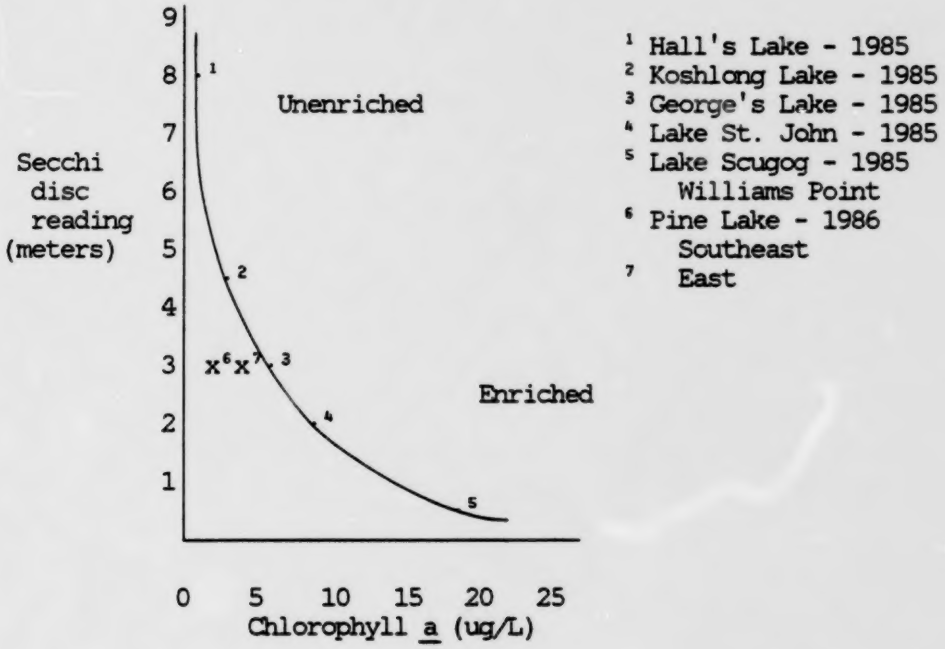
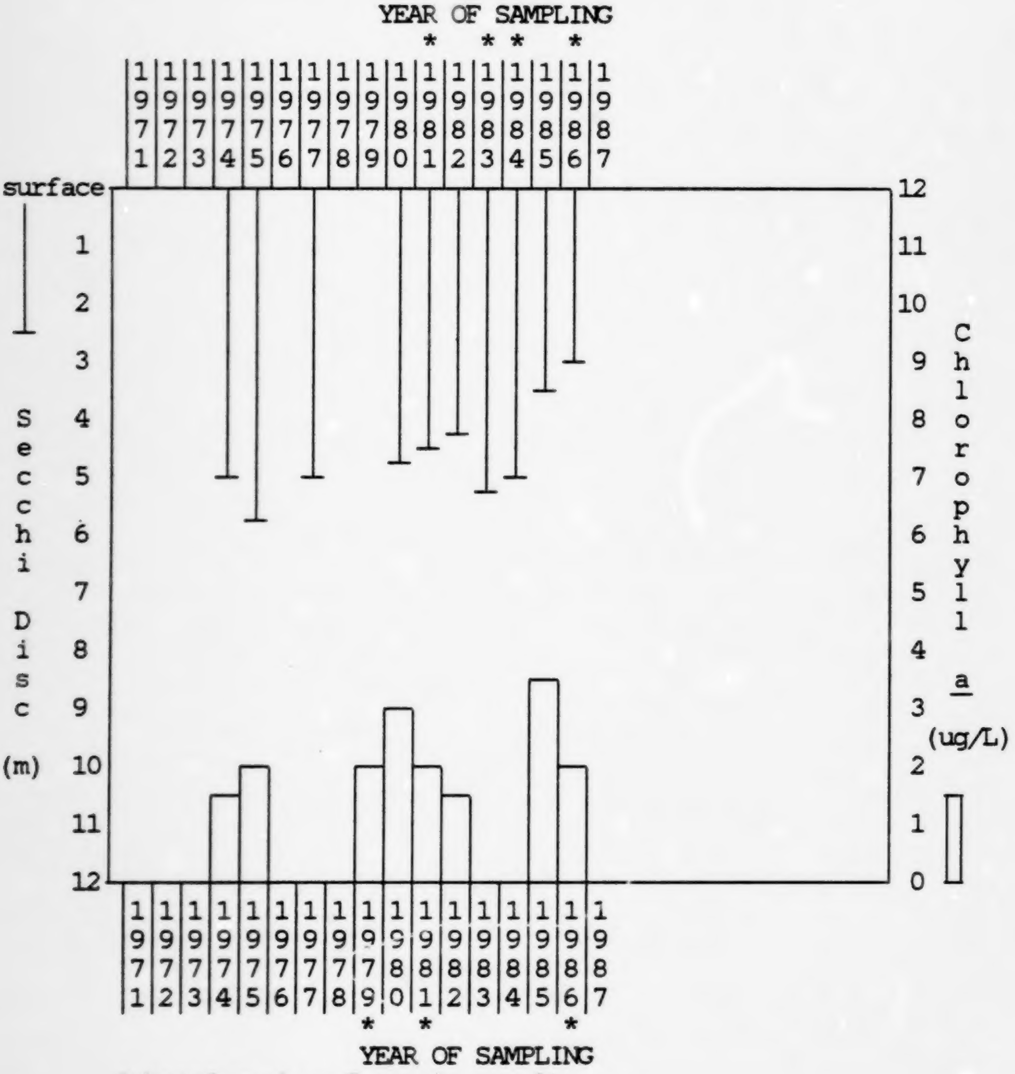


Figure 2 : Summary of results for Secchi disc (m) and chlorophyll a (ug/L) from Pine Lake in Bracebridge from 1974 to 1986. Data from 1974 to 1981 is main lake station, 1982 to 1985 are averages of several stations, and 1986 is the Southeast station. Seasonal mean data (more than 6 sampling dates) unless otherwise specified. A minimum of 4 results was required for graphing.



* based on 4 or 5 sample results

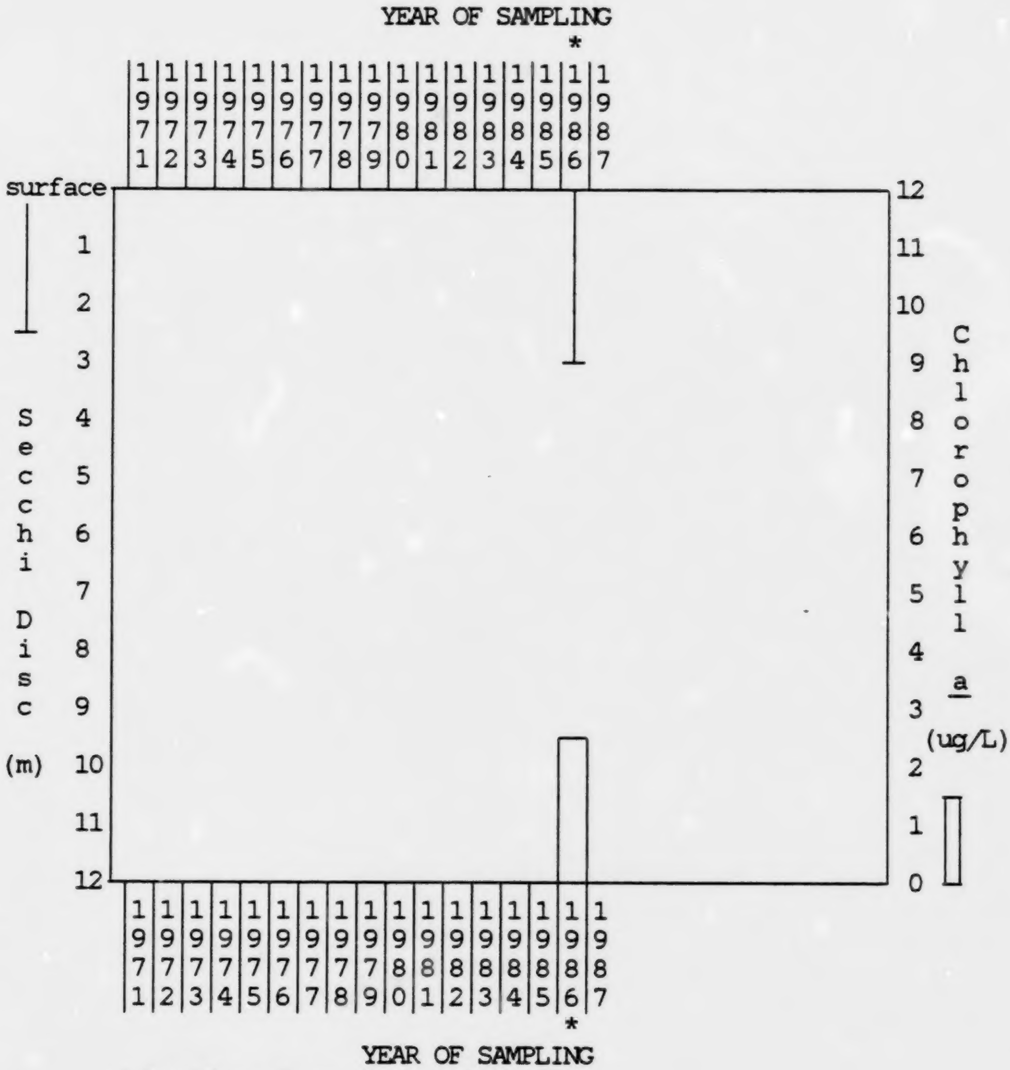
We have 10 years of data for Pine Lake in Bracebridge indicating that water quality is generally moderately enriched to unenriched.

The degree of water clarity has been moderately high to high except in 1985 and 1986 when moderately low clarity was observed.

The densities of suspended algae have been moderately low or low for the period of record.

We recommend that sampling be done at least 6 times to obtain meaningful data.

Figure 2 : Summary of results for Secchi disc (m) and chlorophyll a (ug/L) from Pine Lake (East station) in Bracebridge in 1986. Seasonal mean data (more than 6 sampling dates) unless otherwise specified. A minimum of 4 results was required for graphing.



* based on 4 sample results

Since this is the first year of sampling for the East station on Pine Lake, we are unable to comment on the long-term water quality trends. We hope sampling continues in 1987, and we recommend increasing the sampling frequency to at least 6 occasions, if possible.

PINE LAKE

MUSKOKA & WOOD WARDS
TOWN OF GRAVENHURST

DISTRICT MUNICIPALITY OF
MUSKOKA

Table 1: Secchi Disc (m) and chlorophyll a (ug/L) data collected from Pine Lake in 1986

Station	Upper 1st		Lower 2nd	
Date	S.D.	Chl.a	S.D.	Chl.a
June 1	3.3	2.2	3.5	2.2
July 1	3.8	2.9	3.7	3.9
July 25	4.6	3.9	4.8	9.6
Aug 4	3.8	4.8	3.9	3.9
Aug 24	3.5	5.6	3.6	5.2
Sept 1	3.8	5.1	3.7	9.3
	3.8	4.1	3.9	5.7

A good sampling program was done on Pine Lake in 1986, with sampling on 6 occasions.
Secchi disc readings were similar at both stations, averaging 3.8 m at the Upper station and 3.9 m at the Lower station, indicating moderately low water transparency. Chlorophyll a concentrations averaged 4.1 ug/L at the Upper station and 5.7 ug/L at the Lower station, indicating moderate to high densities of suspended algae. Based on these results, Pine Lake would be considered borderline between enriched and moderately enriched.

FIGURE 1: The relationship between Secchi disc and chlorophyll a for Pine Lake in 1986 and a number of recreational lakes in Central Region. All data are seasonal averages.

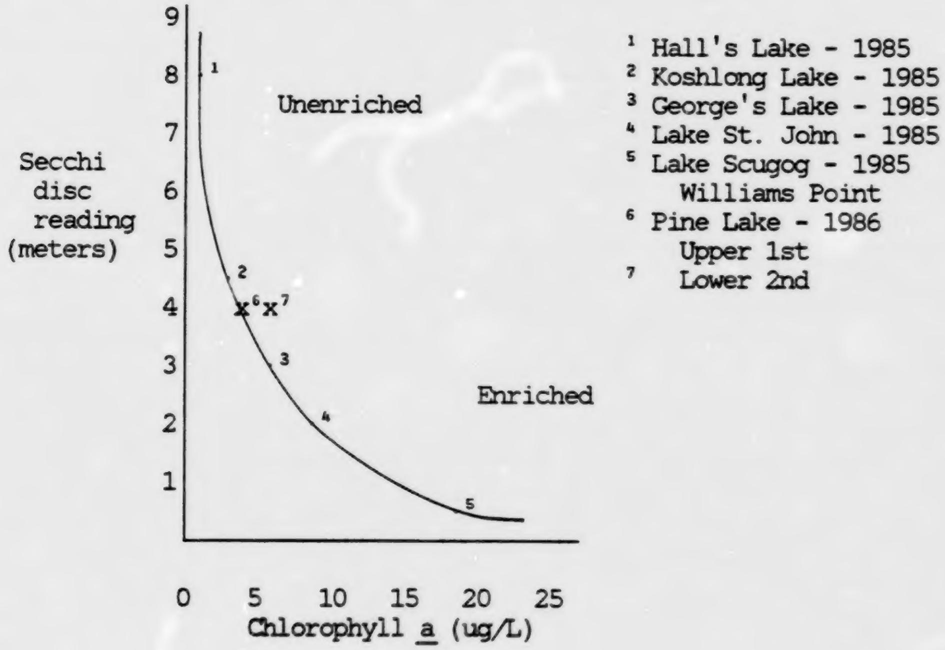
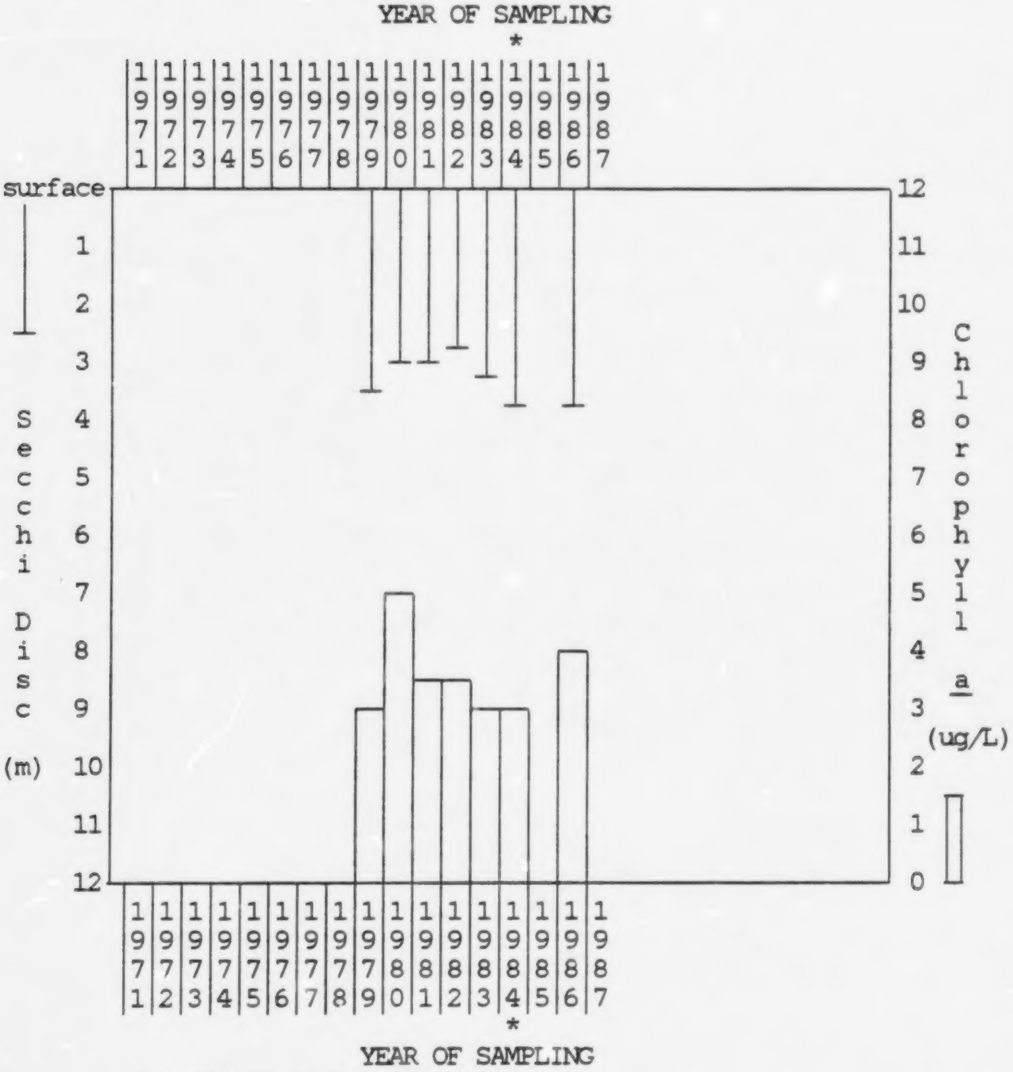


Figure 2 : Summary of results for Secchi disc (m) and chlorophyll a (ug/L) from Pine Lake in Gravenhurst (Upper 1st station) from 1979 to 1986. Seasonal mean data (more than 6 sampling dates) unless otherwise specified. A minimum of 4 results was required for graphing.

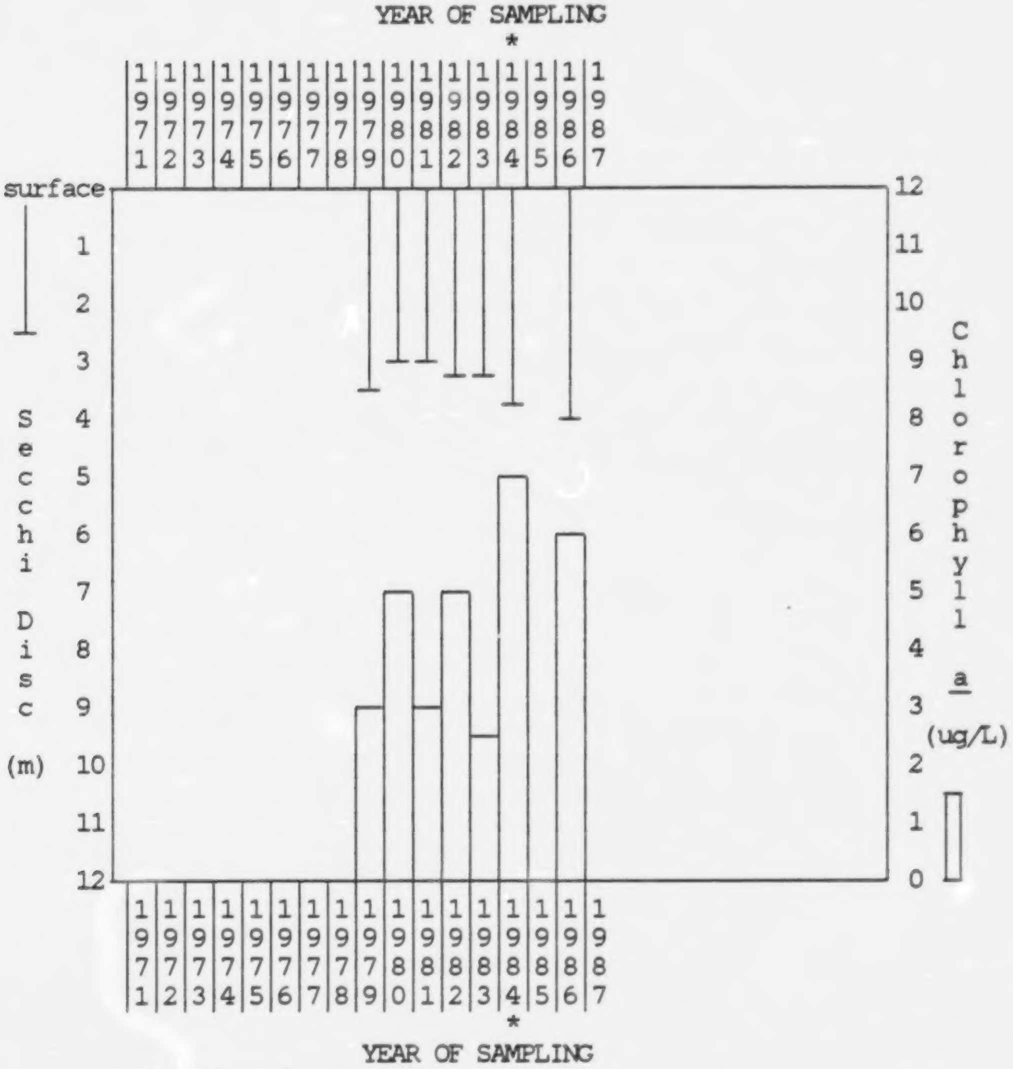


* based on 4 or 5 results

The 7 years of available data indicate that the water quality has not changed since 1979 with a moderately low degree of water clarity and moderately high densities of suspended algae. In 1980, high densities of suspended algae were observed.

We hope that sampling continues in 1987 to maintain a long-term record of water quality at this station.

Figure 2 : Summary of results for Secchi disc (m) and chlorophyll a (ug/L) from Pine Lake in Gravenhurst (Lower 2nd station) from 1979 to 1986. Seasonal mean data (more than 6 sampling dates) unless otherwise specified. A minimum of 4 results was required for graphing.



* based on 4 or 5 sample results

The 7 years of available data indicate that conditions at this station are moderately enriched to enriched with a moderately low degree of water clarity and moderate to high densities of suspended algae. We hope that sampling is continues in 1987 to maintain a long-term record of water quality at this location.

RIL LAKE

RIDOUT WARD
TOWN OF LAKE OF BAYS

DISTRICT MUNICIPALITY OF
MUSKOKA

Table 1: Secchi Disc (m) and chlorophyll a (ug/L) data collected from Ril Lake in 1986

Station	Centre	
Date	S.D.	Chl.a
June 18	2.3	2.4
July 2	2.3	7.9
July 16	2.5	5.8
July 30	3.0	3.3
Aug 13	3.2	6.0
Aug 27	2.7	6.3
Sept 3	2.8	5.0
	-----	-----
	2.7	5.2
	-----	-----

A good sampling program was conducted on Ril Lake in 1986, with sampling on 7 occasions. Seechi disc readings ranged from 2.3 to 3.2 m and averaged 2.7 m, indicating a low degree of water clarity. Chlorophyll a concentrations ranged from 2.4 to 7.9 ug/L and averaged 5.2 ug/L, indicating high densities of suspended algae. Based on the 1986 results, Ril Lake would be considered enriched.

FIGURE 1: The relationship between Secchi disc and chlorophyll a for Ril Lake in 1986 and a number of recreational lakes in Central Region. All data are seasonal averages.

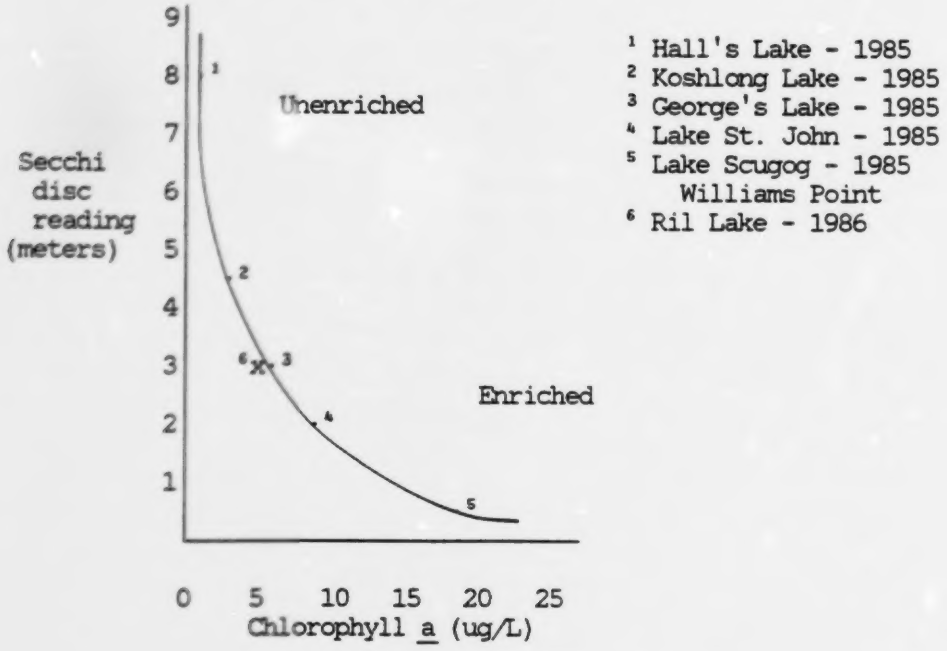
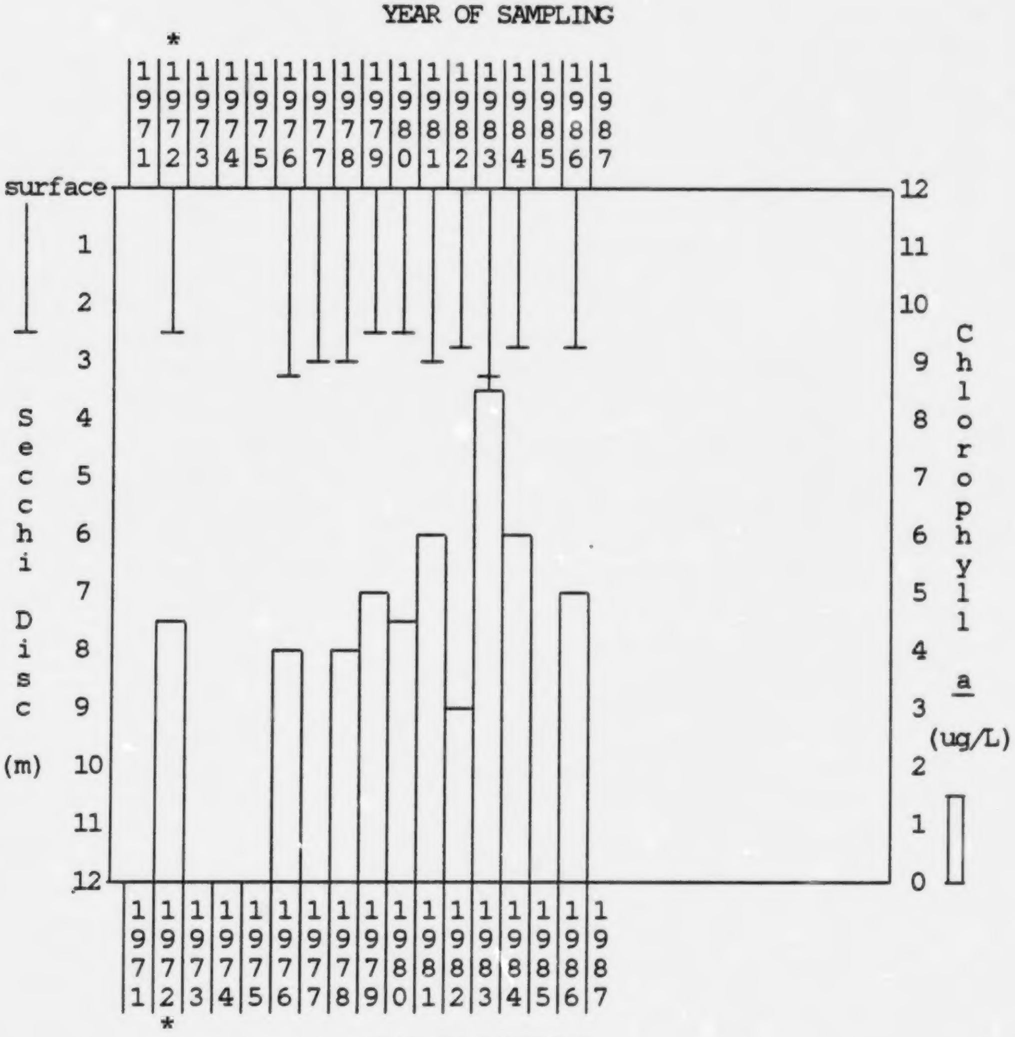


Figure 2 : Summary of results for Secchi disc (m) and chlorophyll a (ug/L) from Ril Lake from 1972 to 1986.
Seasonal mean data (more than 6 sampling dates) unless otherwise specified. A minimum of 4 results was required for graphing.



* MOE data

The 11 years of available data indicate enriched conditions with a low degree of water clarity and high densities of suspended algae.
There has been no change in water quality in Ril Lake since 1971.
We hope that sampling is done in 1987 in order to maintain a long-term record of water quality.

SALERNO LAKE

SNOWDON & GLAMORGAN TOWNSHIPS

COUNTY OF HALIBURTON

Table 1: Secchi Disc (m) and chlorophyll a (ug/L) data collected from Salerno Lake in 1986

Station	South		North	
Date	S.D.	Chl.a	S.D.	Chl.a
July 7	4.0	2.9	4.5	4.9
July 13	3.75	3.3	5.25	7.2
July 20	3.75	UR	4.75	4.1
July 28	4.25	6.1	4.75	6.3
Aug 5	4.3	4.8	4.25	5.8
Aug 10	3.0	3.6	4.2	6.9
Aug 24	3.75	3.5	4.25	5.2
	3.8	4.0	4.6	5.8

UR - unreliable result

A good sampling program was done on Salerno Lake in 1986, with 7 sampling occasions. Secchi disc readings averaged 3.8 m at the South station and 4.6 m at the North station, indicating a moderate degree of water clarity. Chlorophyll a concentrations averaged 4.0 ug/L at the South station and 5.8 ug/L at the North station, indicating moderately high densities of suspended algae. Based on the 1986 results, Salerno Lake would be considered borderline between enriched and moderately enriched.

FIGURE 1: The relationship between Secchi disc and chlorophyll a for Salerno Lake in 1986 and a number of recreational lakes in Central Region. All data are seasonal averages.

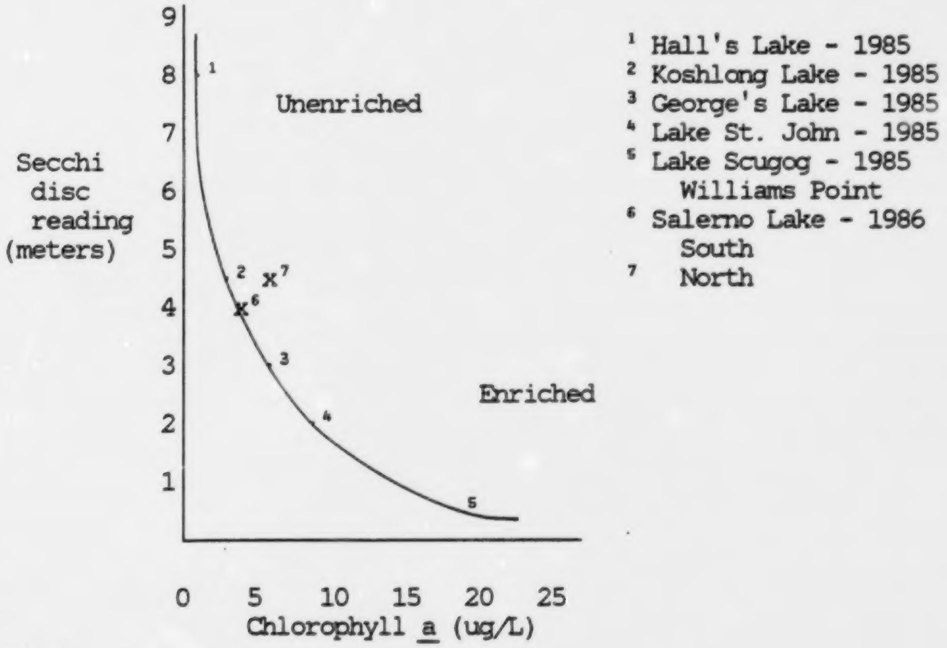
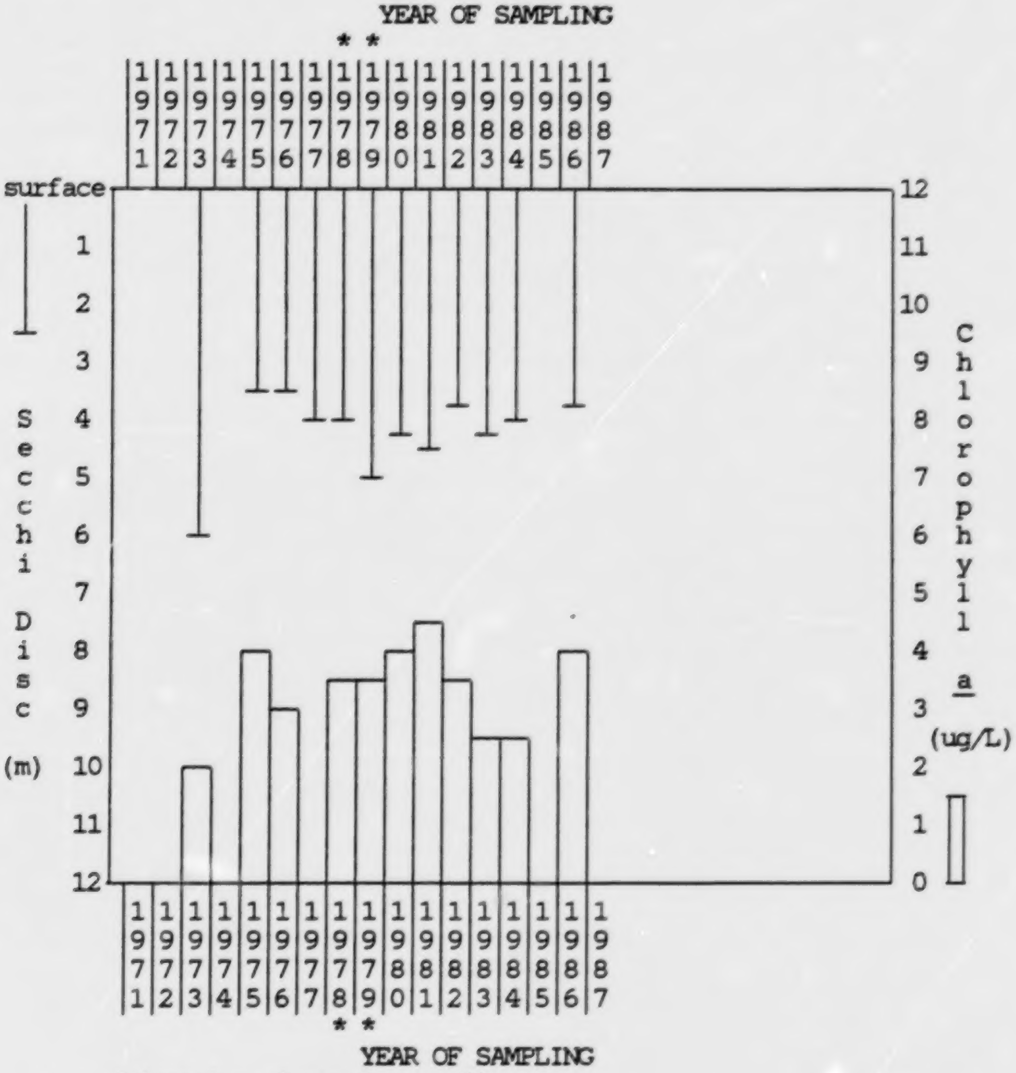


Figure 2 : Summary of results for Secchi disc (m) and chlorophyll a (ug/L) from Salerno Lake (South station) from 1973 to 1986. Seasonal mean data (more than 6 sampling dates) unless otherwise specified. A minimum of 4 results was required for graphing.



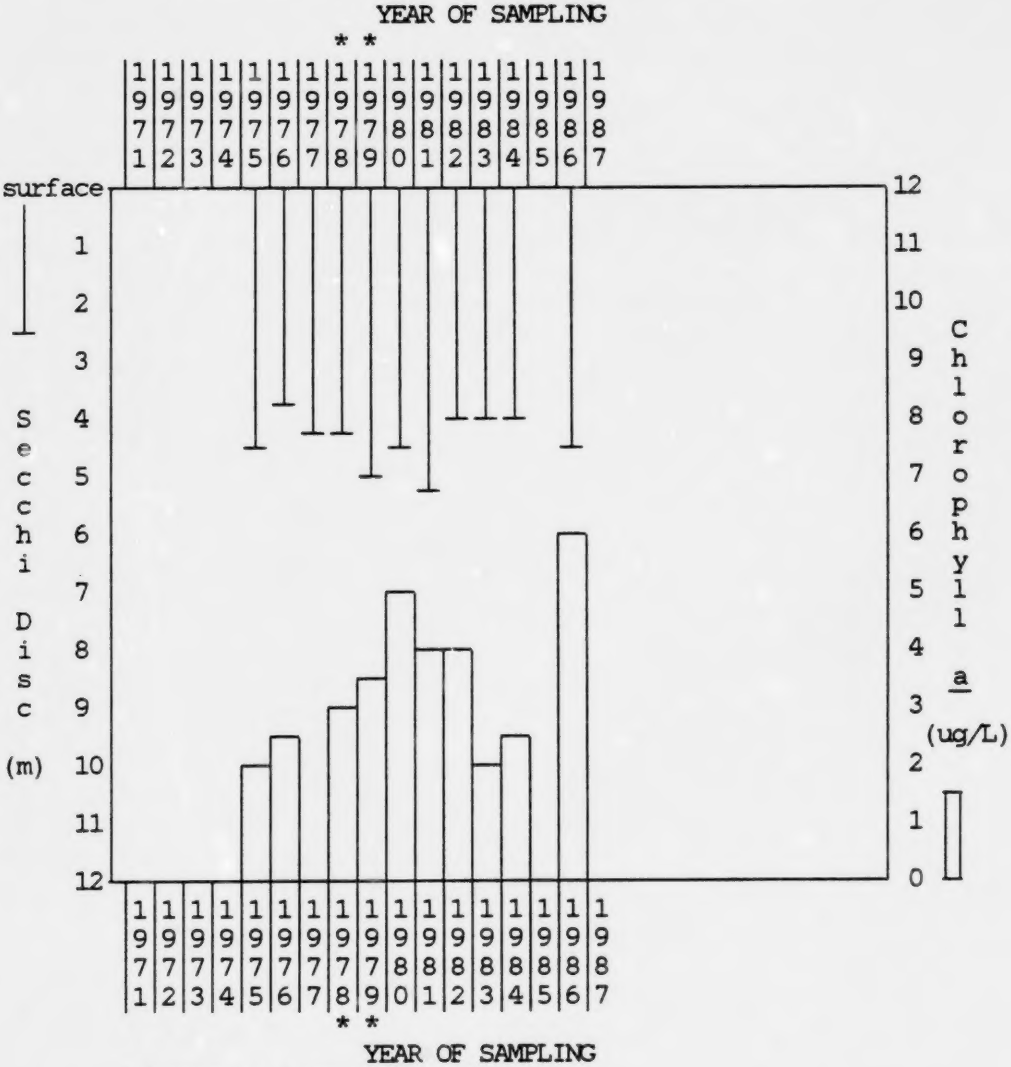
* based on 4 sample results

The 11 years of available data for the South station of Salerno Lake indicate that no overall change in water quality has occurred since 1973.

The degree of water clarity has been moderate and densities of suspended algae have ranged from moderately low to high, reflecting moderately enriched conditions.

We hope that sampling continues in 1987 in order to maintain a long-term record of water quality.

Figure 2 : Summary of results for Secchi disc (m) and chlorophyll a (ug/L) from Salerno Lake (North station) from 1975 to 1986. Seasonal mean data (more than 6 sampling dates) unless otherwise specified. A minimum of 4 results was required for graphing.



* based on 4 sample results

The 10 years of available data for the North station of Salerno Lake indicate moderately enriched conditions with a moderately high degree of water clarity and densities of suspended algae ranging from moderately low to high.

There has been no noticeable change in water quality since 1975. We hope sampling is done in 1987 in order to maintain a long-term record of water quality at this station.

SALMON LAKE

CAVENDISH TOWNSHIP

COUNTY OF PETERBOROUGH

Table 1: Secchi Disc (m) and chlorophyll a (ug/L) data collected from Salmon Lake in 1986

Station	Centre		South		North	
Date	S.D.	Chl.a	S.D.	Chl.a	S.D.	Chl.a
May 19	5.5	1.5	5.0	1.8		
June 7	5.5	1.2	6.0	1.3		
July 5			6.0	EF	6.0	EF
July 24			7.0	1.0T	8.5	1.3
Aug 4			6.5	1.1	7.0	1.3
Sept 1			6.5	1.5	6.0	1.8
			6.1	1.3	6.9	1.5

EF - Laboratory equipment failure.

In 1986, Salmon Lake was sampled on 6 occasions at the South station and on 4 occasions at the North station. Insufficient sampling was done at the Centre station for meaningful results. The degree of water transparency was high, with Secchi disc readings averaging 6.1 m at the South station and 6.9 m at the North station. Chlorophyll a concentrations averaged 1.3 ug/L at the South station and 1.5 ug/L at the North station, indicating low densities of suspended algae. Based on these results, Salmon Lake would be considered unenriched. If possible, increase the sampling frequency to at least 6 times per station for more reliable data.

FIGURE 1: The relationship between Secchi disc and chlorophyll a for Salmon Lake in 1986 and a number of recreational lakes in Central Region. All data are seasonal averages.

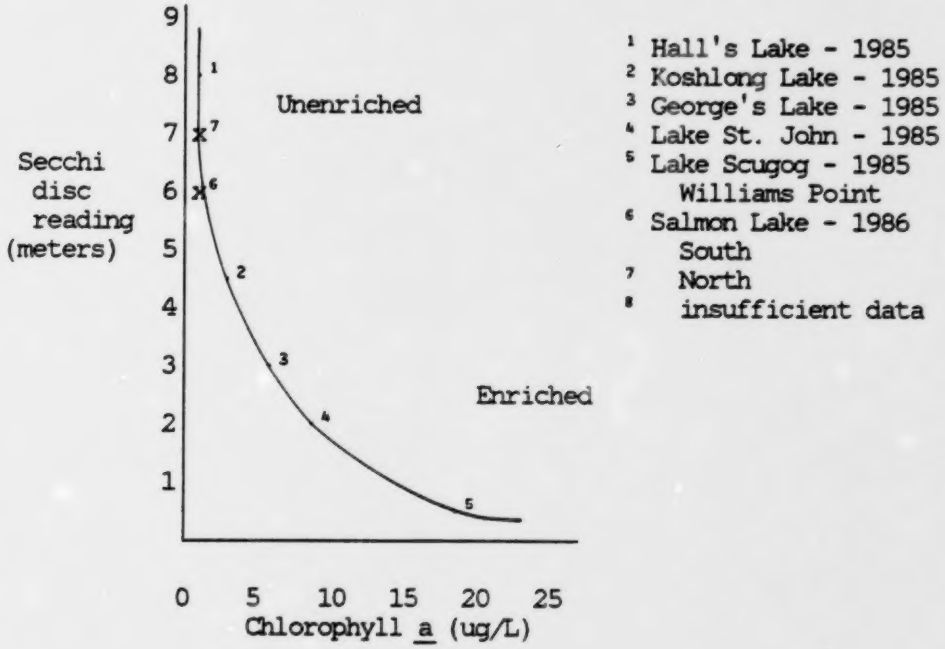
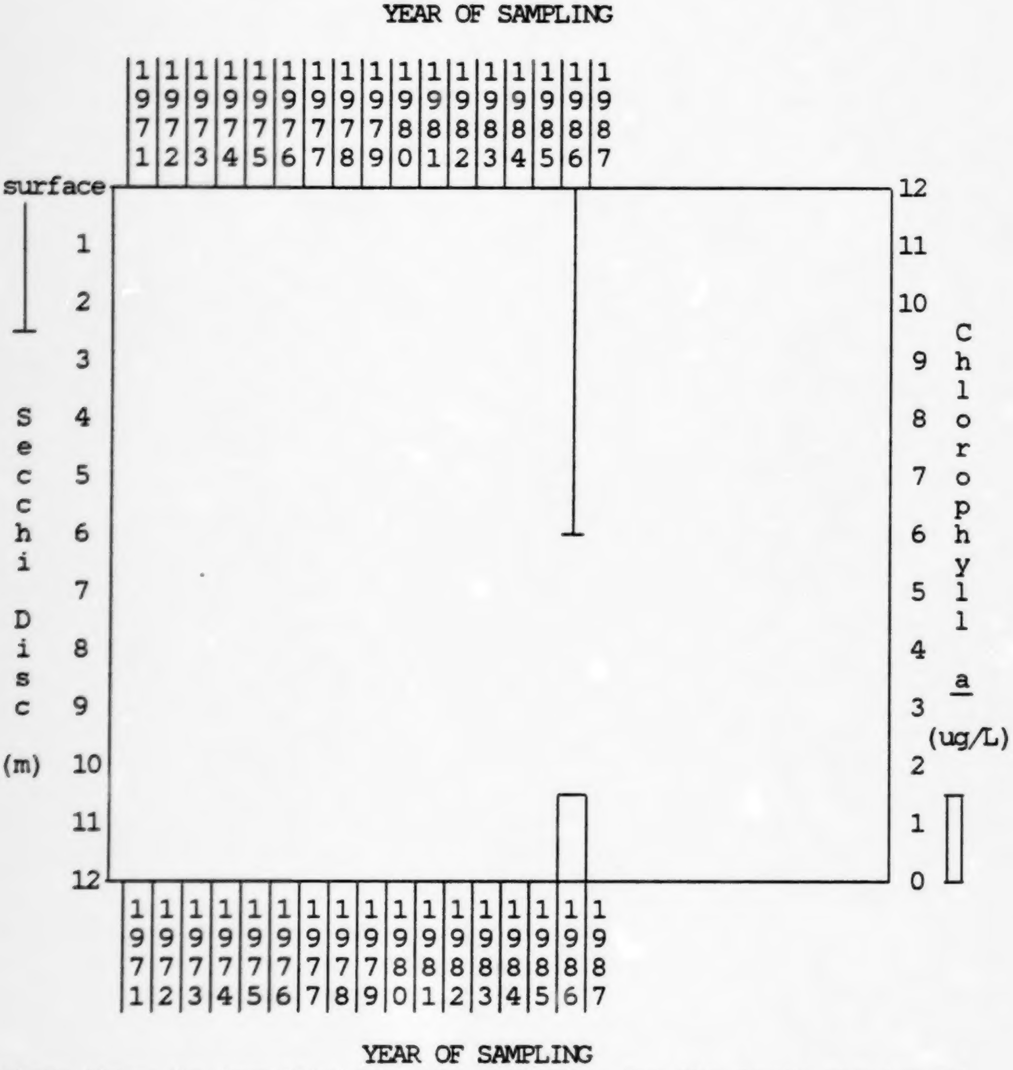


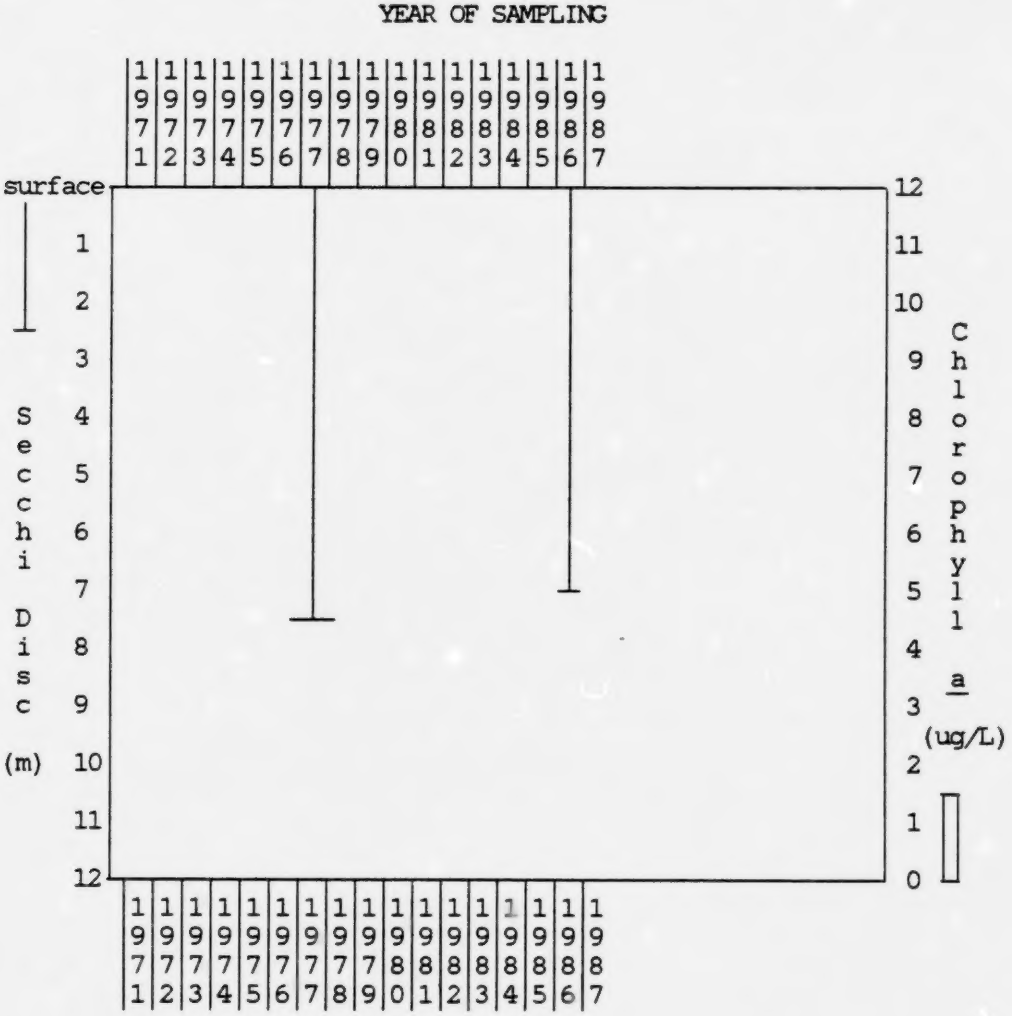
Figure 2 : Summary of results for Secchi disc (m) and chlorophyll a (ug/L) from Salmon Lake (South station) for 1986. Seasonal mean data (more than 6 sampling dates) only. A minimum of 4 results was required for graphing.



Since there is insufficient data available for the South station of Salmon Lake, we are unable to comment on the long-term water quality trends.

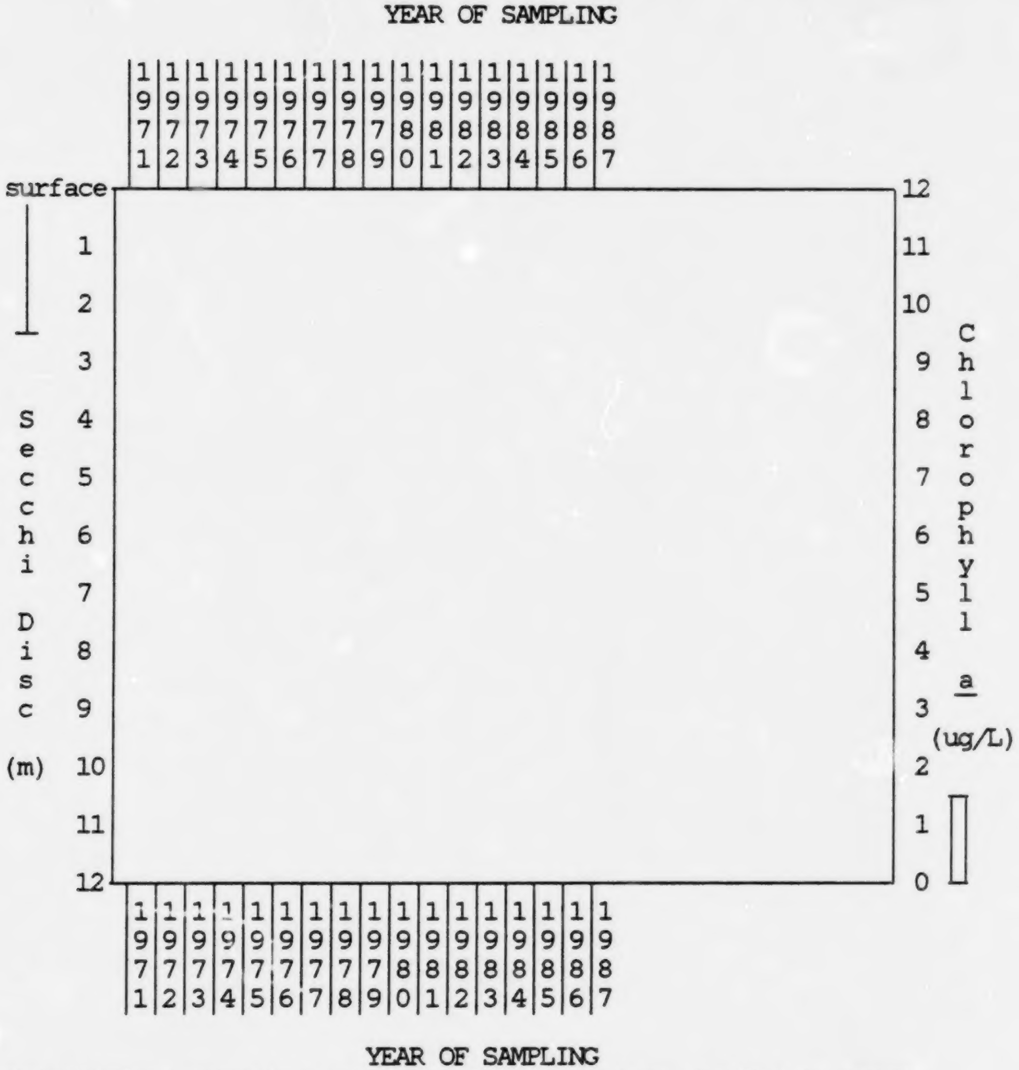
We hope sampling continues at this station in 1987 in order to establish a long-term record of water quality.

Figure 2 : Summary of results for Secchi disc (m) and chlorophyll a (ug/L) from Salmon Lake (North station) in 1977 and 1986. Seasonal mean data (more than 6 sampling dates) only. A minimum of 4 results was required for graphing.



Insufficient sampling was done at this station in 1985 and 1986 to obtain meaningful results. We hope that sampling is done in 1987 with increased frequency.

Figure 2 : Summary of results for Secchi disc (m) and chlorophyll a (ug/L) from Salmon Lake (Centre station).
Seasonal mean data (more than 6 sampling dates) only.
A minimum of 4 results was required for graphing.



Insufficient sampling was done at this station in 1986 to obtain meaningful results.
We hope that sampling is done in 1987 with increased frequency.

SHADOW LAKE

SOMERVILLE TOWNSHIP

VICTORIA COUNTY

Table 1: Secchi Disc (m) and chlorophyll a (ug/L) data collected from Shadow Lake in 1986

Station	Main	
Date	S.D.	Chl.*a*
May 25	4.75	1.5
June 1	3.0	L 0.9
June 8	3.0	1.2
June 15	4.25	L 1.0
June 22	3.5	L 0.3
June 29	4.0	L 0.9
July 6	5.0	1.4
July 20	4.75	W 0.1
July 27	5.0	1.5
Aug 4	4.75	1.7
Aug 10	5.0	1.1
Aug 17	5.0	1.7
Aug 24	4.0	2.0
Sept 1	4.75	2.0
	-----	-----
	4.3	1.3

L - Less than
W - Zero, value reports is minimal measurable amount.

Once again, an excellent sampling program was done on Shadow Lake, with sampling on 14 occasions between May 25 and Sept 1. Secchi disc readings ranged from 3.0 to 5.0 m and averaged 4.3 m, indicating a moderately high degree of water transparency. Chlorophyll *a* concentrations ranged from less than 0.1 to 2.0 ug/L and averaged 1.3 ug/L, indicating low densities of suspended algae.
Based on these results, Shadow Lake would be considered unenriched.

FIGURE 1: The relationship between Secchi disc and chlorophyll *a* for Shadow Lake in 1986 and a number of recreational lakes in Central Region. All data are seasonal averages.

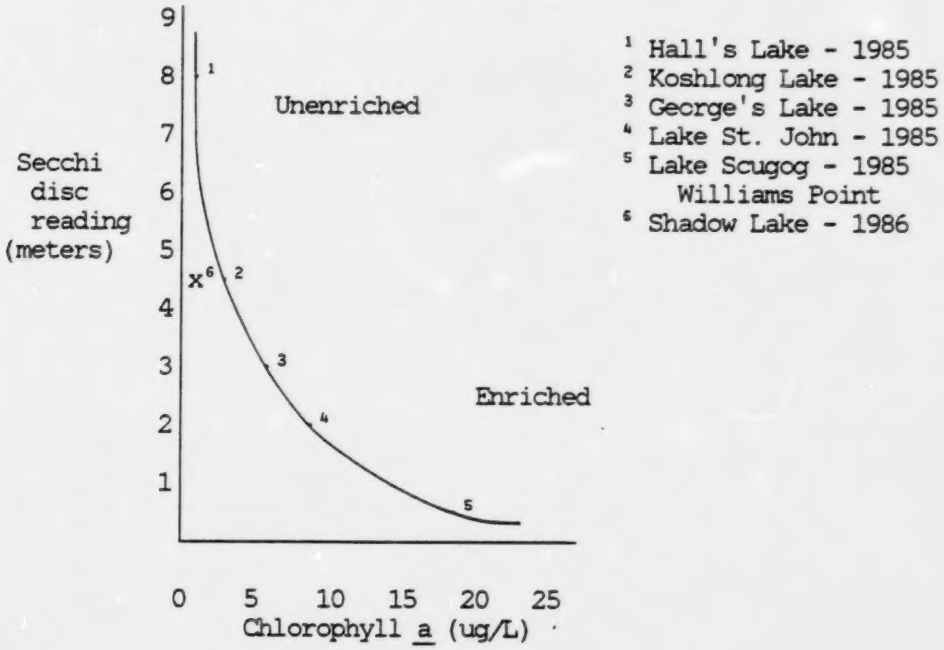
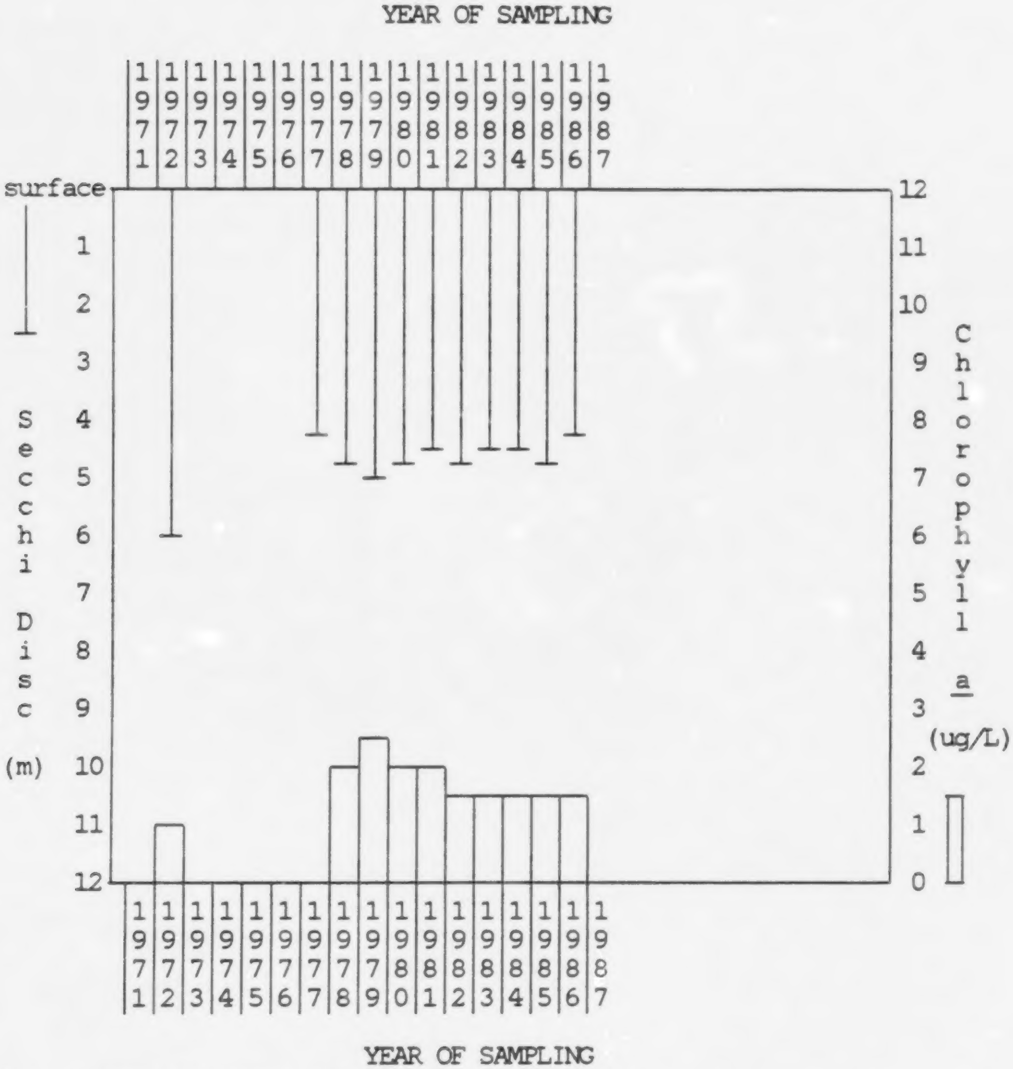


Figure 2 : Summary of results for Secchi disc (m) and chlorophyll a (ug/L) from Shadow Lake from 1972 to 1986. Seasonal mean data (more than 6 sampling dates) only.



We now have 11 years of data for Shadow Lake.

The degree of water clarity has been moderately high except in 1972 when clarity was high.

Densities of suspended algae have been generally low for the period of record.

There has been no change in water quality in Shadow Lake since 1972.

We hope that sampling is continued on Shadow Lake in 1987 in order to maintain a long-term record of water quality.

SILVER LAKE

MUSKOKA & MORRISON WARD
TOWN OF GRAVENHURST

DISTRICT MUNICIPALITY OF
MUSKOKA

Table 1: Secchi Disc (m) and chlorophyll a (ug/L) data collected from Silver Lake in 1986.

Station	Lower Silver	
Date	S.D.	Chl.a
May 25	2.0	2.7
June 15	3.75	1.1
July 13	3.0	3.3
July 20	3.0	7.0
July 27	3.6	4.9
Aug 10	3.2	3.9
Aug 17	3.1	2.3
	3.1	3.9

A good sampling program was done on Silver Lake in 1986 with 7 sampling occasions.
Secchi disc readings ranged from 2.0 to 3.75 m and averaged 3.1 m, indicating a moderate degree of water clarity.
Chlorophyll a concentrations ranged from 1.1 to 7.0 ug/L and averaged 3.9 ug/L, indicating moderate densities of suspended algae.
Based on these results, Silver Lake would be considered moderately enriched.

FIGURE 1: The relationship between Secchi disc and chlorophyll a for Silver Lake in 1986 and a number of recreational lakes in Central Region. All data are seasonal averages.

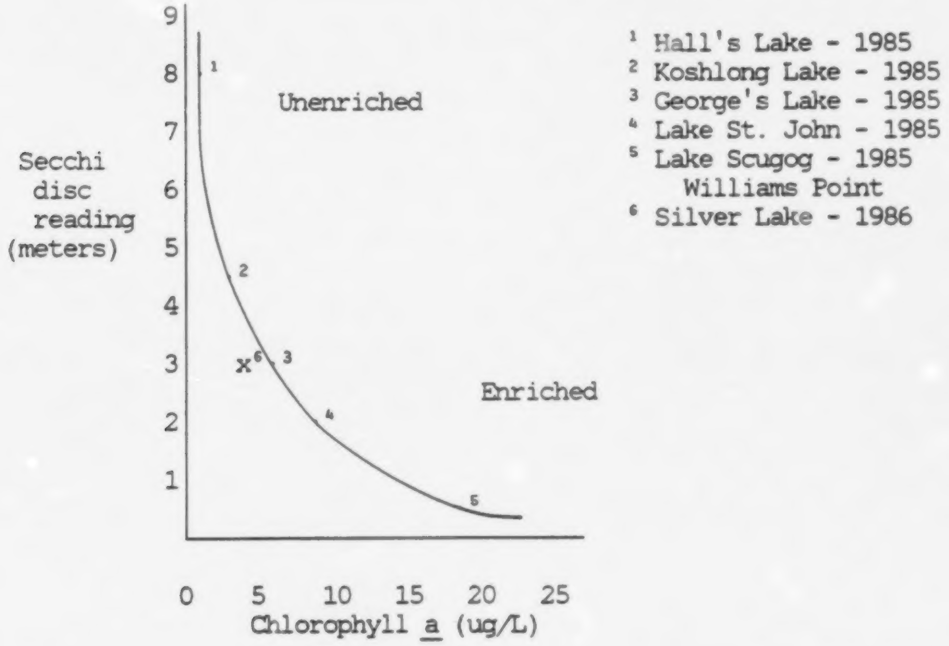
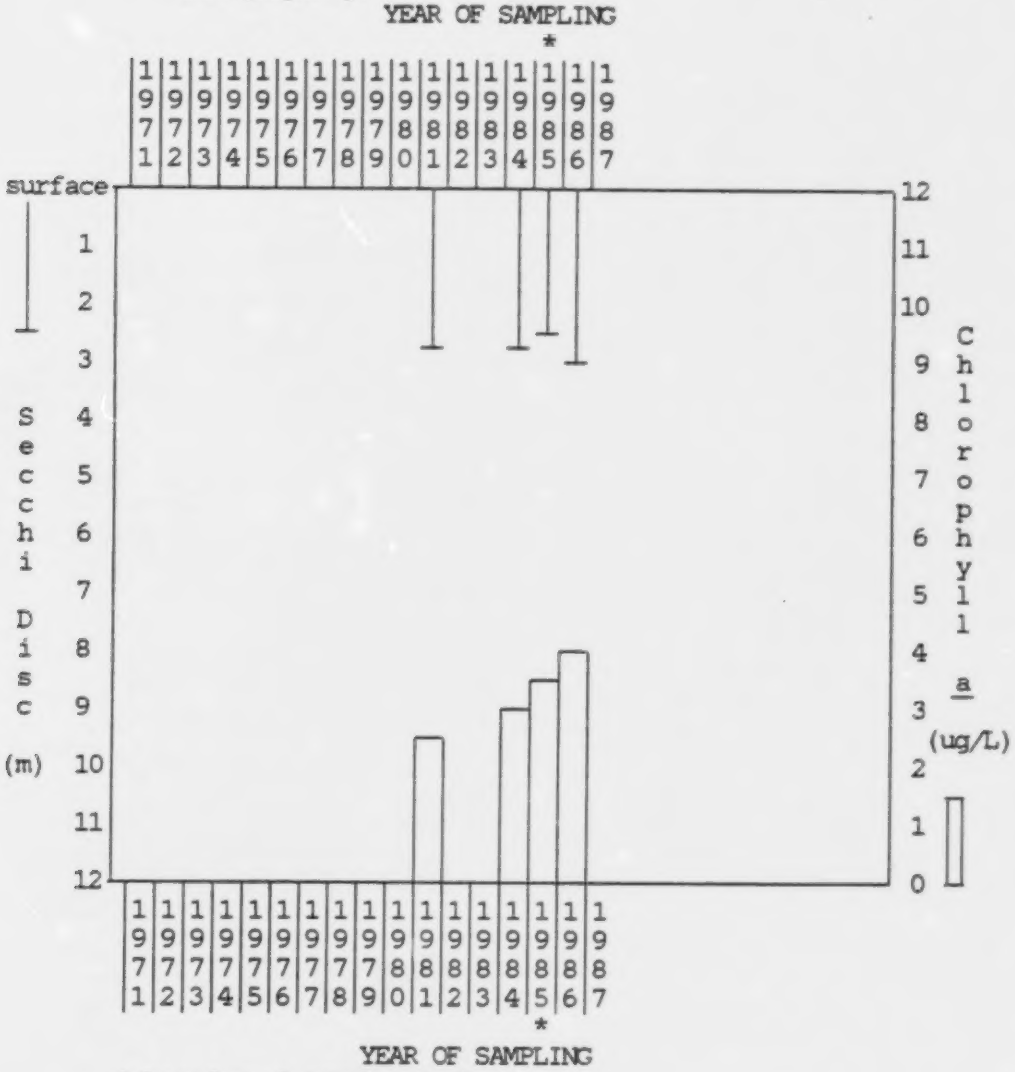


Figure 2 : Summary of results for Secchi disc (m) and chlorophyll a (ug/L) from Silver Lake from 1981 to 1986.
Seasonal mean data (more than 6 sampling dates) unless otherwise specified. A minimum of 4 results was required for graphing.



* based on 4 sample results

The 4 years of available data for Silver Lake indicates that the degree of water clarity has been consistently low for the period of record and the densities of suspended algae have been moderately low. There appears to be a trend toward increasing chlorophyll a concentrations. We hope that you continue to sample in 1987 in order to continue to monitor this apparent trend.

SIX MILE LAKE

BAXTER WARD
TOWNSHIP OF GEORGIAN BAY

DISTRICT MUNICIPALITY OF
MUSKOKA

Table 1: Secchi Disc (m) and chlorophyll a (ug/L) data collected from Six Mile Lake in 1986

Station	North (Crooked Bay)		South (Lost Channel)	
Date	S.D.	Chl.a	S.D.	Chl.a
May 17	3.5	1.9	3.5	2.0
June 1	3.5	1.8	3.7	1.4
June 22	4.2	1.6	3.6	1.4
July 20	5.0	2.3	5.5	2.7
July 27	7.0	1.5	6.0	2.6
Aug 17	5.0	1.7	4.5	2.5
Sept 15	4.5	2.2	3.5	3.0
Sept 28	4.5	2.4	5.0	2.3
	4.7	1.9	4.4	2.2

A good sampling program was conducted on Six Mile Lake in 1986, with sampling on 8 occasions. Secchi disc readings averaged 4.7 m in Crooked Bay and 4.4 m in Lost Channel, indicating a moderately high degree of water transparency. Chlorophyll a concentrations averaged 1.9 ug/L at Crooked Bay and 2.2 ug/L at Lost Channel, indicating moderately low densities of suspended algae. Based on the 1986 results, Six Mile Lake would be considered borderline between moderately enriched and unenriched.

FIGURE 1: The relationship between Secchi disc and chlorophyll a for Six Mile Lake in 1986 and a number of recreational lakes in Central Region. All data are seasonal averages.

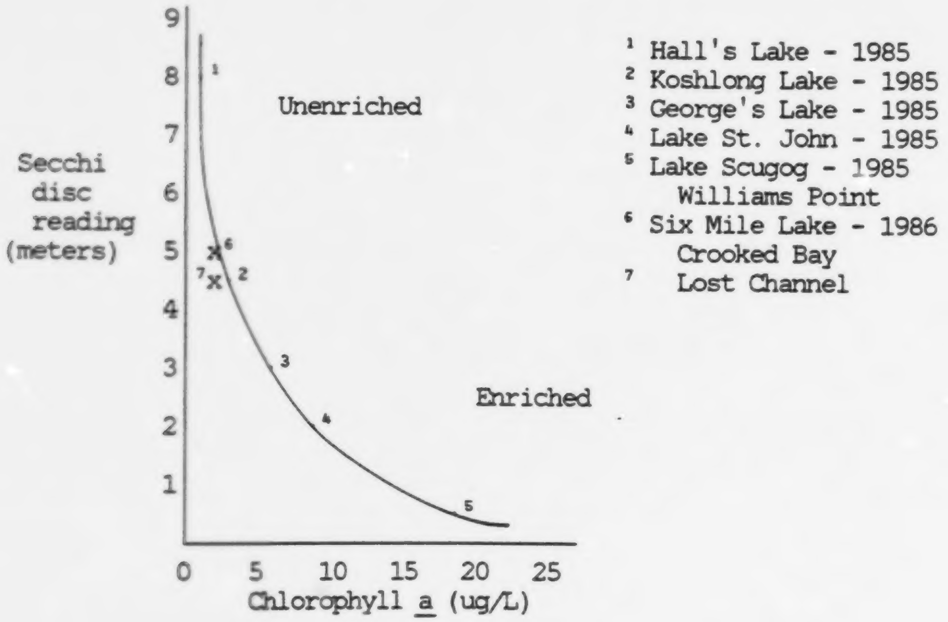
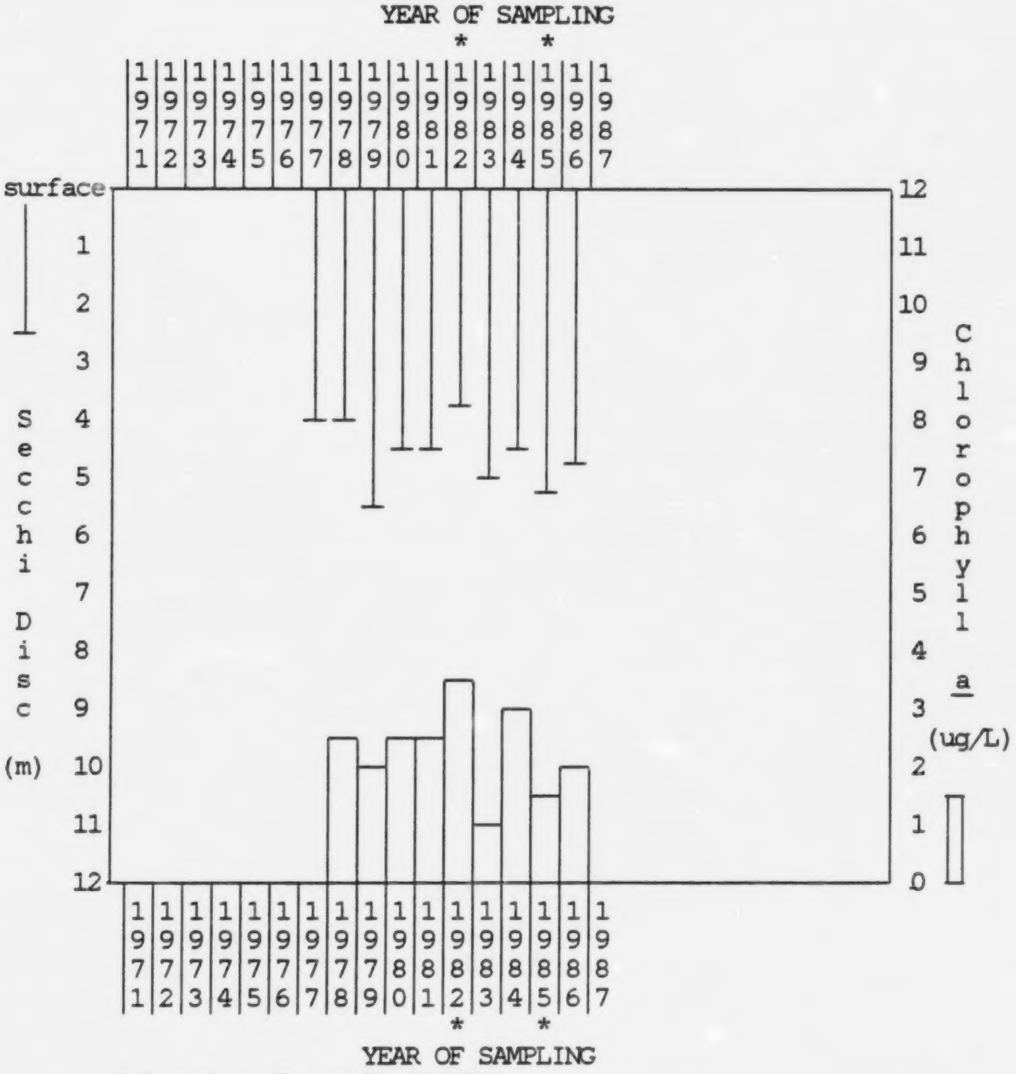


Figure 2 : Summary of results for Secchi disc (m) and chlorophyll a (ug/L) from Six Mile Lake (Crooked Bay) from 1977 to 1986. Seasonal mean data (more than 6 sampling dates) unless otherwise specified. A minimum of 4 results was required for graphing.



* based on 5 sample results

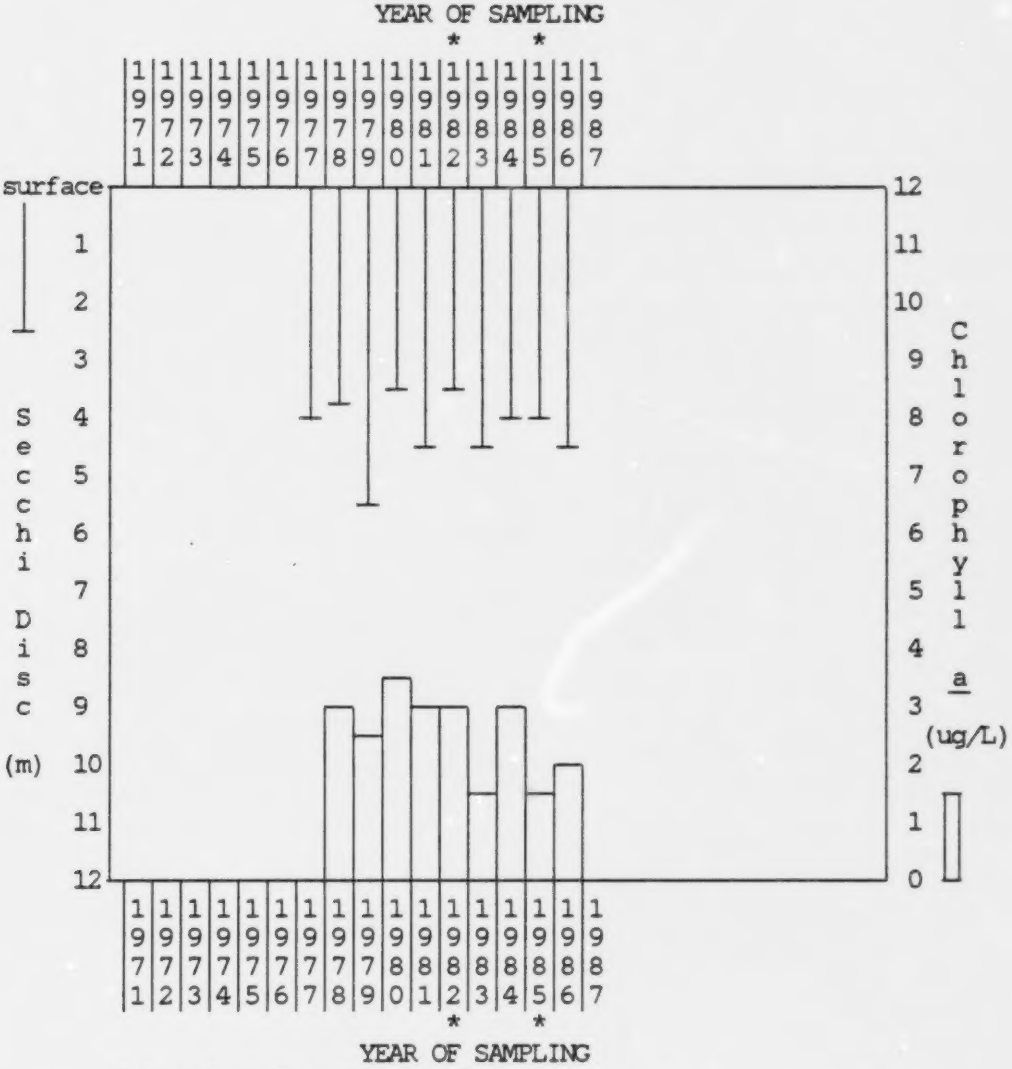
There are now 10 years of data available for Crooked Bay of Six Mile Lake. The degree of water clarity has been moderately high to high for the period of record.

Densities of suspended algae have been moderately low most of the time.

There has been no overall change in water quality at this location since 1977.

We hope sampling continues in 1987 in order to maintain a long-term water quality record at this station.

Figure 2 : Summary of results for Secchi disc (m) and chlorophyll a (ug/L) from Six Mile Lake (Lost Channel) from 1977 to 1986. Seasonal mean data (more than 6 sampling dates) unless otherwise specified. A minimum of 4 results was required for graphing.



* based on 5 sample results

The 10 years of data for Lost Channel indicate that water quality has not changed significantly.

The degree of water clarity has been moderate except in 1979 when clarity was high.

Densities of suspended algae have been moderate except in 1983 and 1985 when densities were low.

There has been no overall change in water quality at this location since 1977.

We hope sampling continues in 1987 in order to maintain a long-term water quality record at this station.

SKELETON LAKE

CARDWELL & WATT WARDS
TWP. OF MUSKOKA LAKES

DISTRICT MUNICIPALITY OF MUSKOKA

Table 1: Secchi Disc (m) and chlorophyll a (ug/L) data collected from Skeleton Lake in 1986

Station Date	Middle S.D.	North Shore Chl.a
June 15	9.0	L 0.8
June 22	8.0	L 0.4
June 30	9.0	L 0.7
July 6	8.0	L 0.6
July 20	12.0	4.7
July 27	10.0	1.1
Aug 4	8.0	2.5
Aug 17	10.0	L 1.0
Aug 24	10.0	1.1
Sept 1	12.0	1.3
Sept 7	9.0	1.6
Sept 21	11.0	1.6
	9.7	1.5

L - Less than

An excellent sampling program was done on Skeleton Lake in 1986, with sampling on 12 occasions.
Secchi disc readings were consistently high, ranging from 8.0 to 12.0 m and averaging 9.7 m, indicating a very high degree of water clarity.
Chlorophyll a concentrations ranged from less than 0.4 to 4.7 ug/L and averaged 1.5 ug/L, indicating low densities of suspended algae.
Based on the 1986 results, Skeleton Lake still has the excellent water quality characteristic of an unenriched lake.

FIGURE 1: The relationship between Secchi disc and chlorophyll a for Skeleton Lake in 1986 and a number of recreational lakes in Central Region. All data are seasonal averages.

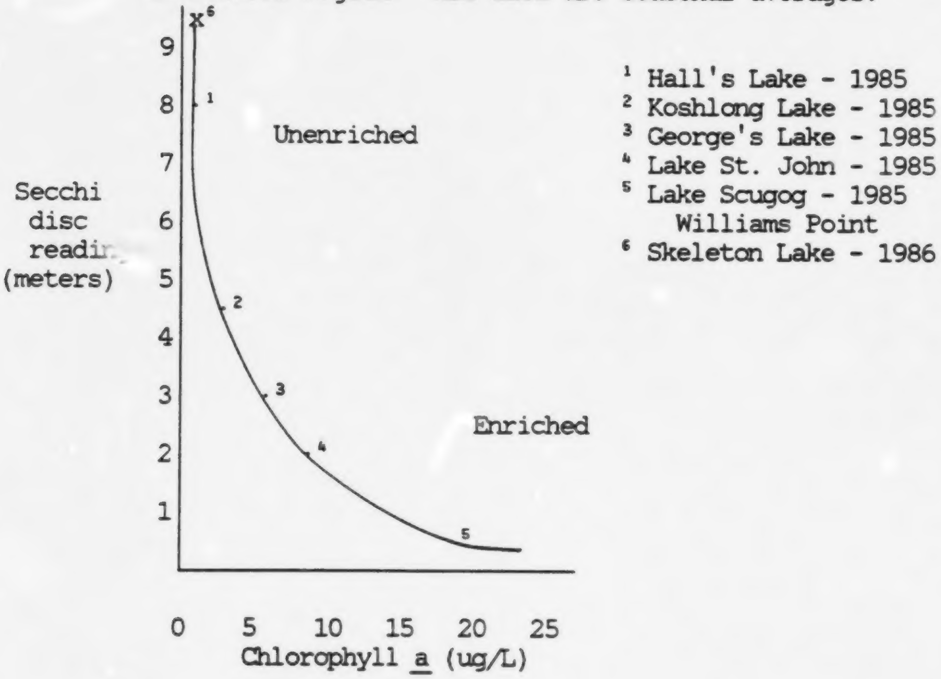
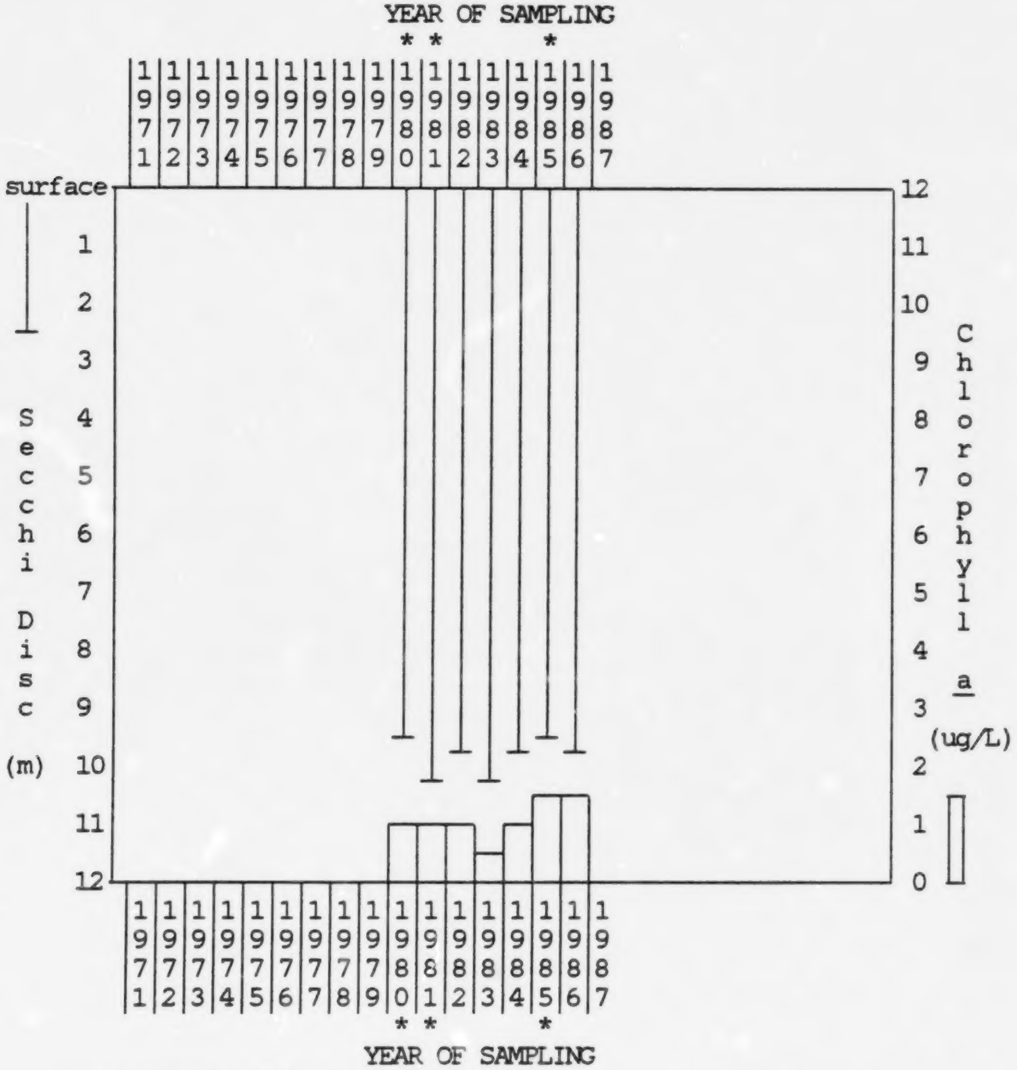


Figure 2 : Summary of results for Secchi disc (m) and chlorophyll a (ug/L) from Skeleton Lake from 1980 to 1986. Seasonal mean data (more than 6 sampling dates) unless otherwise specified. A minimum of 4 results was required for graphing.



* based on 4 sample results

The 6 years of data available for Skeleton Lake indicate that water quality has not changed since 1980.

Water quality in Skeleton Lake continues to be excellent with an extremely high degree of water clarity and low densities of suspended algae.

We hope that you continue sampling in 1987 in order to maintain a long-term record of water quality.

SOUTH LAKE

SNOWDON TOWNSHIP

HALIBURTON COUNTY

Table 1: Secchi Disc (m) and chlorophyll a (ug/L) data collected from South Lake in 1986

Station	North		South		Middle	
Date	S.D.	Chl.a	S.D.	Chl.a	S.D.	Chl.a
June 1	2.5	2.9	3.0	2.6		
June 15					4.3	2.3
June 22					3.5	1.7
July 6					2.5	EF
July 20					3.5	4.4
Aug 10					3.0	2.3
Aug 17					3.5	2.1
Aug 24					3.2	3.5
Sept 1					3.5	3.2
					3.4	2.8

EF - Laboratory equipment failure.

A good sampling program was done at the Middle station of South Lake in 1986, with sampling on 8 occasions. Insufficient sampling was done at the North and South stations to obtain meaninful results. The degree of water clarity was moderate with an average Secchi disc reading of 3.4 m. Chlorophyll a concentrations averaged 2.8 ug/L. Based on these results, South Lake would be considered moderately enriched. If sampling continues in 1987, we suggest that one station sampled at least 6 times is adequate for this lake.

FIGURE 1: The relationship between Secchi disc and chlorophyll a for South Lake in 1986 and a number of recreational lakes in Central Region. All data are seasonal averages.

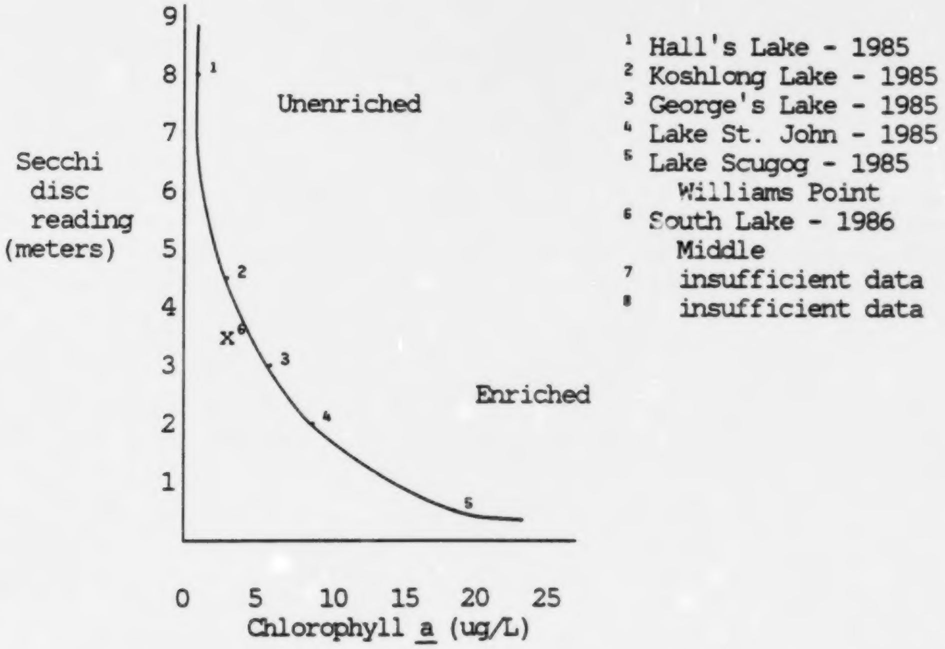
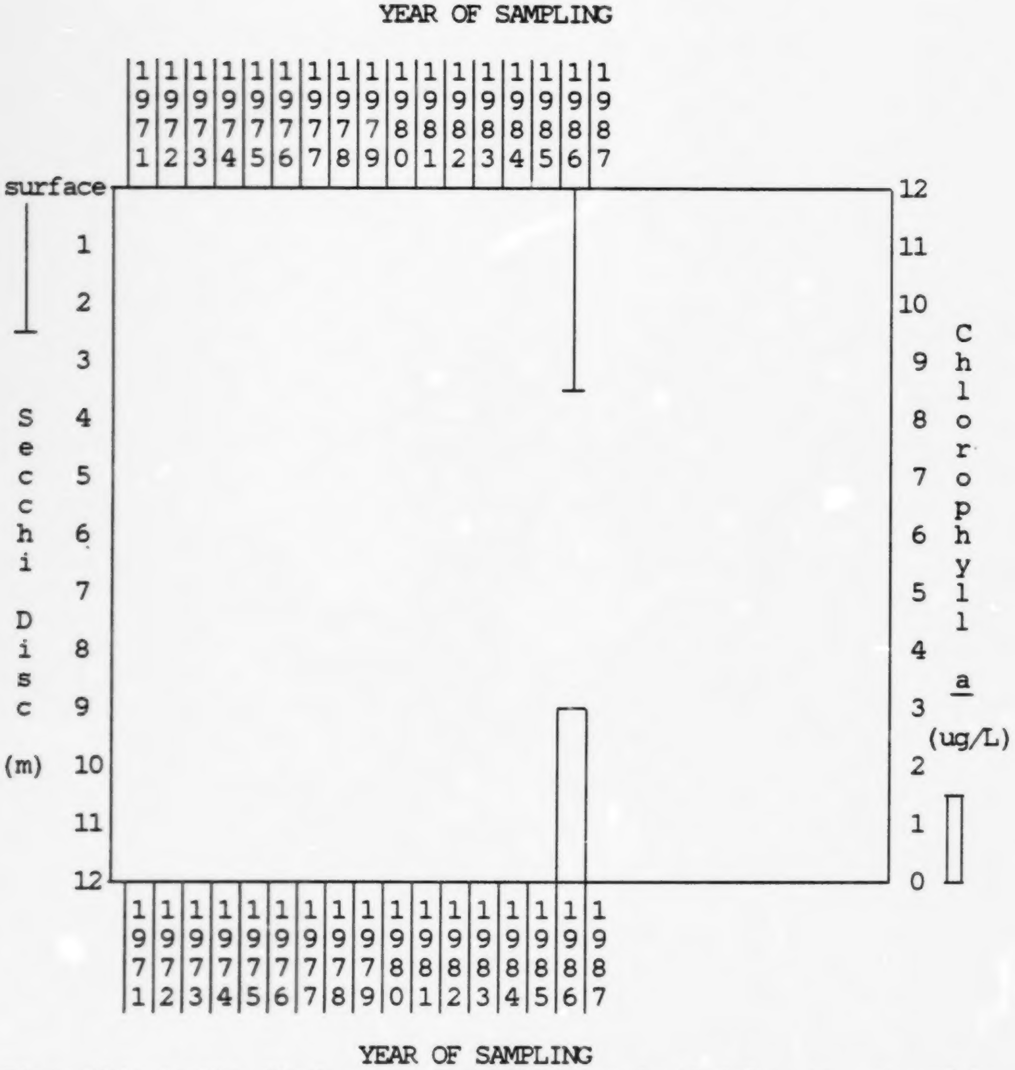


Figure 2 : Summary of results for Secchi disc (m) and chlorophyll a (ug/L) from South Lake (Middle station) in 1986. Seasonal mean data (more than 6 sampling dates) unless otherwise specified. A minimum of 4 results was required for graphing.



Since this is the first year of sampling on South Lake, we are unable to comment on the long-term water quality trends. Insufficient sampling was done at the North and South stations for graphing. We hope sampling continues in 1987.

SOYERS LAKE

MINDEN TOWNSHIP

COUNTY OF HALIBURTON

Table 1: Secchi Disc (m) and chlorophyll a (ug/L) data collected from Soyers Lake in 1986

Station Date	1 S.D.	Chl.a
May 19	3.96	1.4
June 30	3.75	L 0.8
July 6	4.27	EF
July 13	4.11	2.0
July 22	5.0	1.1
July 27	5.2	2.3
Aug 4	4.57	2.7
Aug 24	4.88	2.8
Sept 1	4.73	2.8
	4.5	2.0

Another excellent sampling program was done on Soyers Lake in 1986 with sampling on 9 occasions. Secchi disc readings ranged from 3.75 to 5.2 m and averaged 4.5 m, indicating moderately high water clarity. Chlorophyll a concentrations ranged from less than 0.8 to 2.8 ug/L and averaged 2.0 ug/L. Based on these results, Soyers Lake would be considered borderline between moderately enriched and unenriched.

EF - Laboratory equipment failure.
L - Less than (not included in average)

FIGURE 1: The relationship between Secchi disc and chlorophyll a for Soyers Lake in 1986 and a number of recreational lakes in Central Region. All data are seasonal averages.

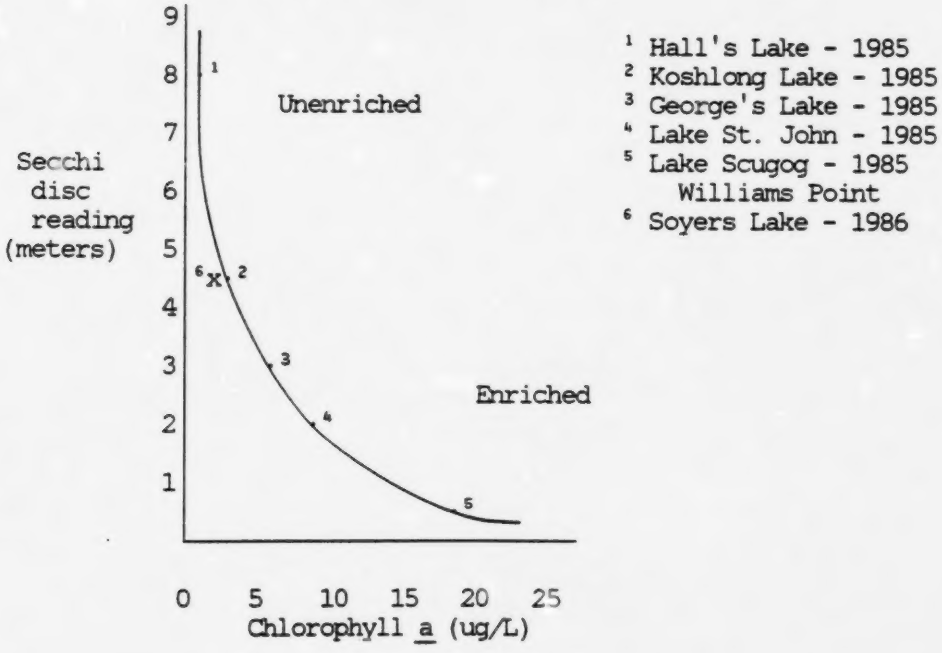
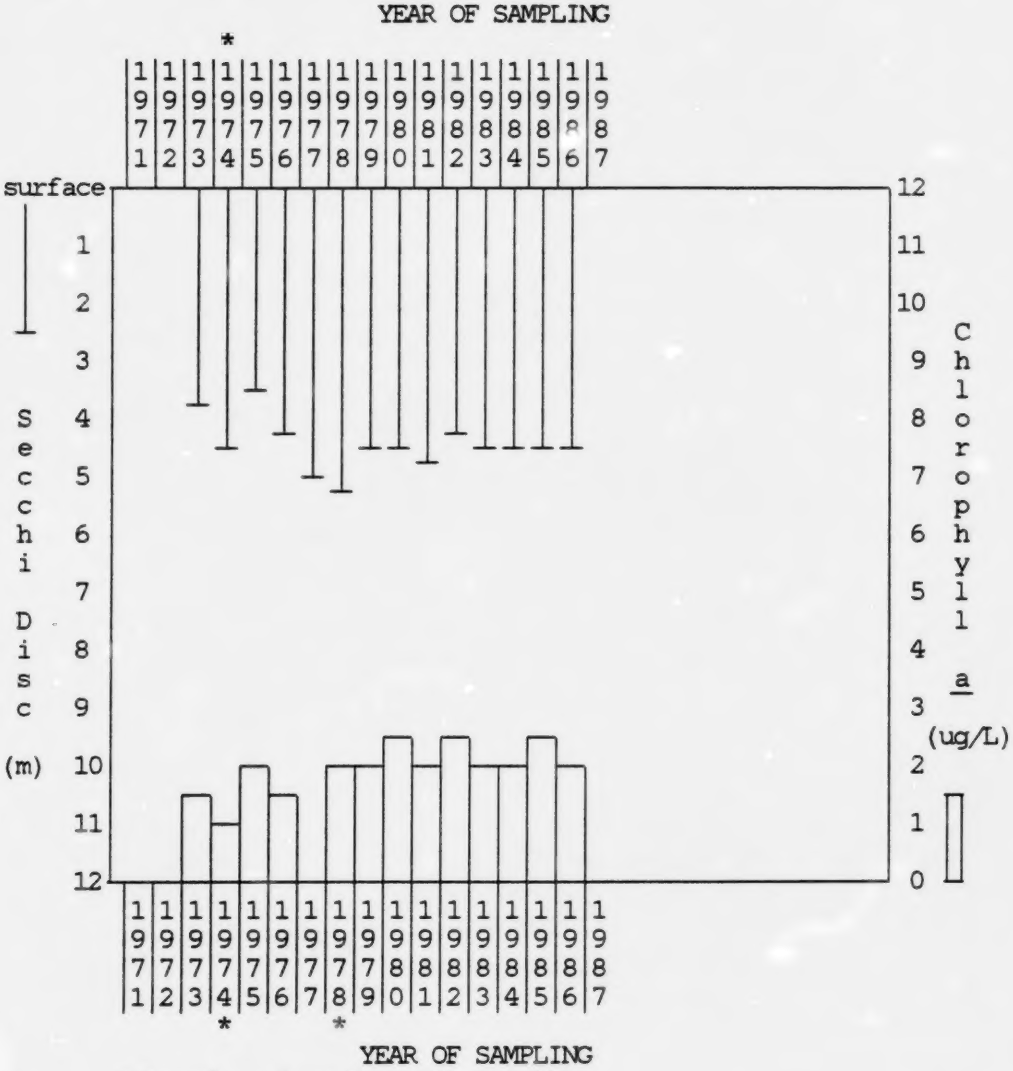


Figure 2 : Summary of results for Secchi disc (m) and chlorophyll a (ug/L) from Soyers Lake from 1973 to 1986. Seasonal mean data (more than 6 sampling dates) unless otherwise specified. A minimum of 4 results was required for graphing.



* based on 4 or 5 sample results

An excellent sampling program has been done on Soyers Lake with 14 years of data.

The degree of water clarity has been moderately high for the period of record with Secchi disc readings ranging from 3.5 to 5.5 m.

Densities of suspended algae have been moderately low with average chlorophyll a concentrations ranging from 1 to 2.5 ug/L.

We hope you continue your excellent participation in Self Help in 1987.

SPAR LAKE

LUTTERWORTH TOWNSHIP

COUNTY OF HALIBURTON

Table 1: Secchi Disc (m) and chlorophyll a (ug/L) data collected from Spar Lake in 1986.

Station	Main	
Date	S.D.	Chl.a
June 15	5.5	2.4
July 6	4.0	2.1
July 12	4.0	1.9
July 20	4.8	1.6
July 27	5.6	1.6
Aug 4	7.0	1.8
Aug 10	6.0	1.7
Aug 24	5.8	2.0
Sept 1	6.2	1.9
	5.4	1.8

An excellent sampling program was done on Spar Lake in 1986, with sampling on 9 occasions. Secchi disc readings ranged from 4.0 to 7.0 m and averaged 5.4 m, indicating a high degree of water clarity. Chlorophyll a concentrations ranged from 1.6 to 2.4 ug/L and averaged 1.8 ug/L, indicating low densities of suspended algae. Based on these results Spar Lake would be considered unenriched, with excellent water quality.

FIGURE 1: The relationship between Secchi disc and chlorophyll a for Spar Lake in 1986 and a number of recreational lakes in Central Region. All data are seasonal averages.

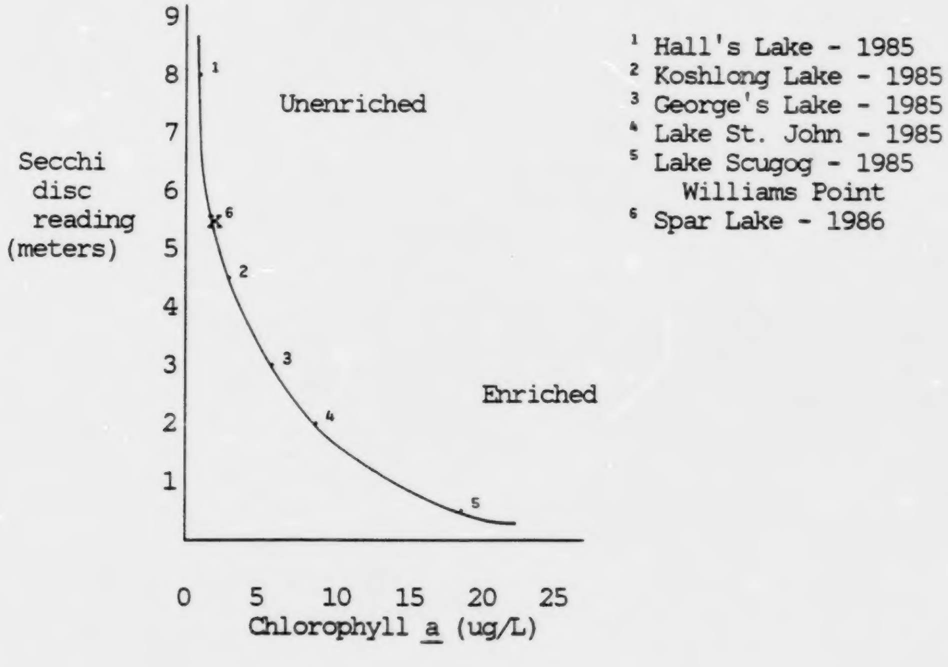
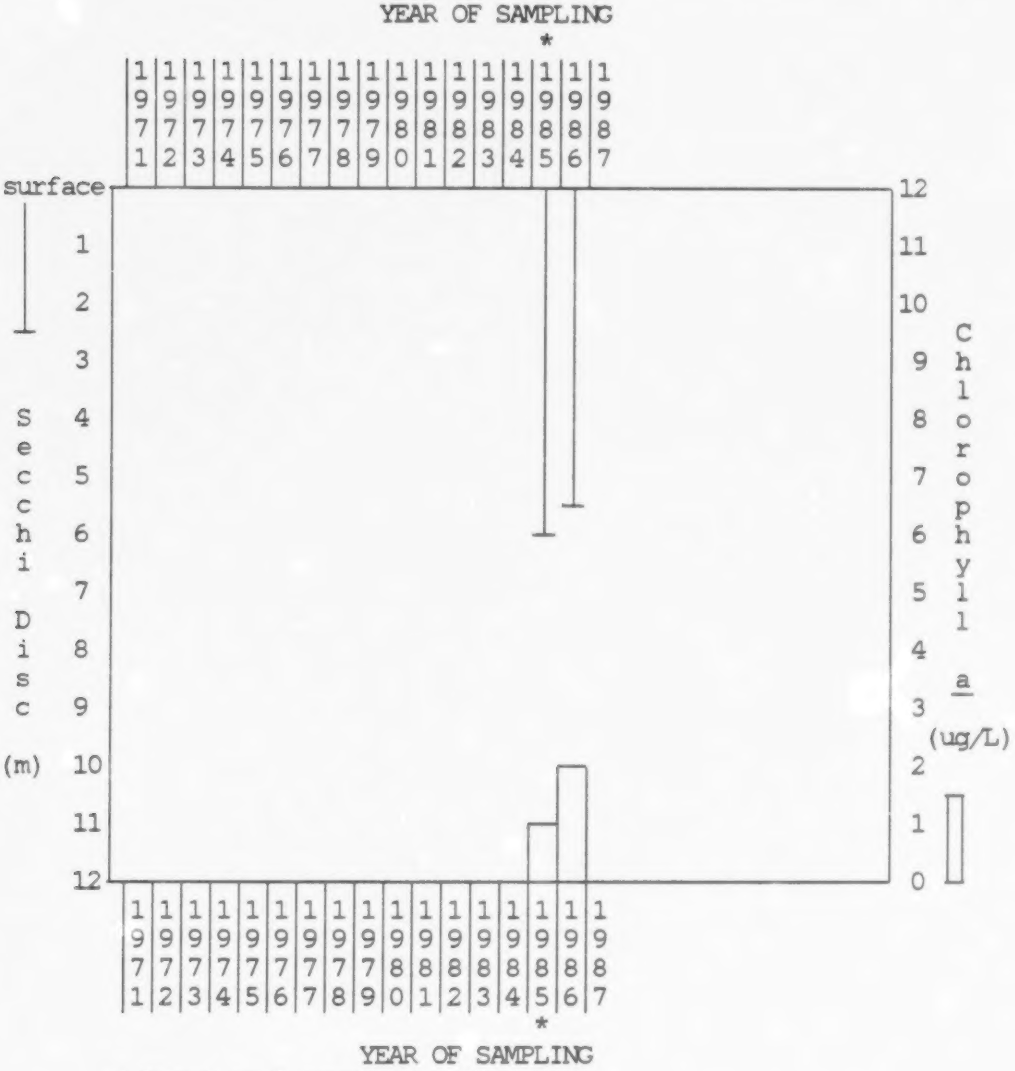


Figure 2 : Summary of results for Secchi disc (m) and chlorophyll a (ug/L) from Spar Lake in 1985 and 1986. Seasonal mean data (more than 6 sampling dates) unless otherwise specified. A minimum of 4 results was required for graphing.



* based on 5 sample results

There are now two years of reliable data for Spar Lake.

We hope sampling continues in 1987 in order to establish a long-term record of water quality.

SPARROW LAKE

MORRISON WARD
TOWN OF GRAVENHURST

DISTRICT MUNICIPALITY OF
MUSKOKA

Table 1: Secchi Disc (m) and chlorophyll a (ug/L) data collected from Sparrow Lake in 1986

Station Date	North End S.D.	 Chl.a	Deep Bay S.D.	 Chl.a
July 6	2.5	2.9	3.0	3.2
July 13	2.5	1.9	3.3	2.3
July 20	3.25	2.2	3.5	2.6
July 27	3.0	2.1	3.3	2.8
Aug 3	2.8	2.1	3.2	2.2
Aug 10	2.8	5.4	3.6	3.2
Aug 17	3.5	2.7	3.2	2.8
Aug 24	2.8	2.6	2.8	2.4
	2.9	2.7	3.2	2.7

A good sampling program was done on Sparrow Lake, with sampling on 8 occasions. Secchi disc readings averaged 2.9 m at the North End and 3.2 m at Deep Bay, indicating moderately low water clarity. Chlorophyll a concentrations averaged 2.7 ug/L at both stations, indicating moderate concentrations of suspended algae. Based on these results, Sparrow Lake would be considered moderately enriched.

FIGURE 1: The relationship between Secchi disc and chlorophyll a for Sparrow Lake in 1986 and a number of recreational lakes in Central Region. All data are seasonal averages.

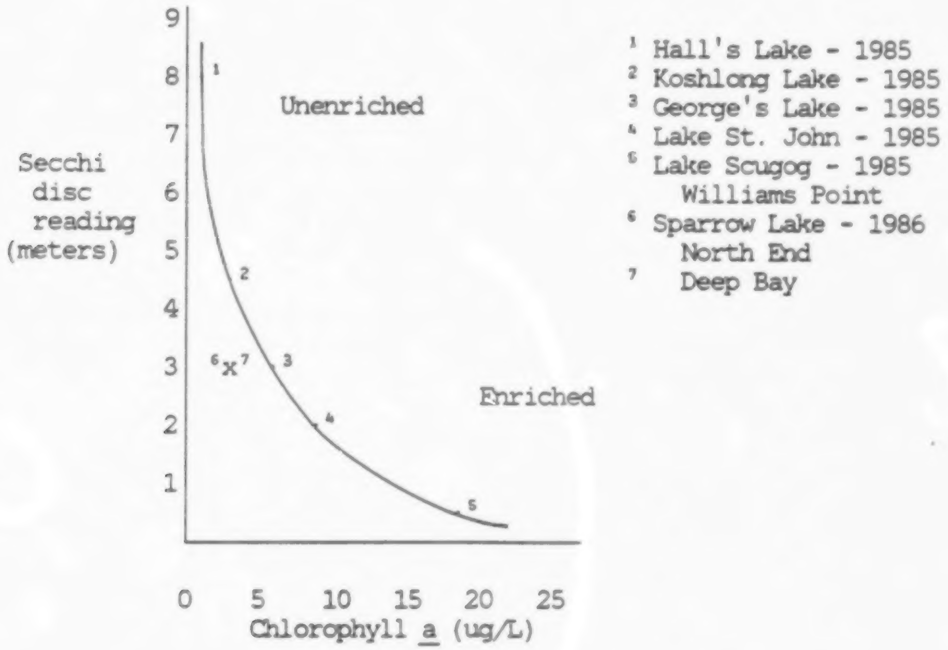
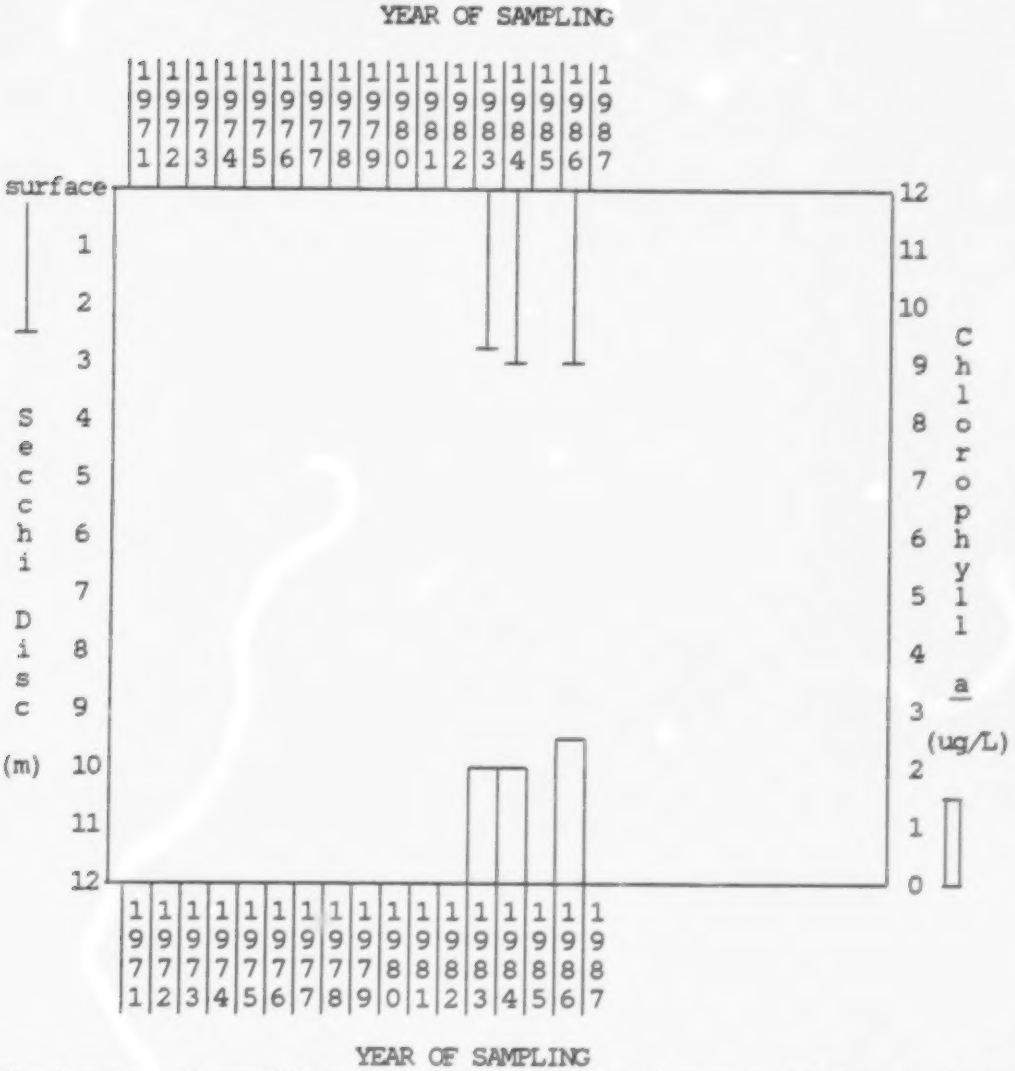
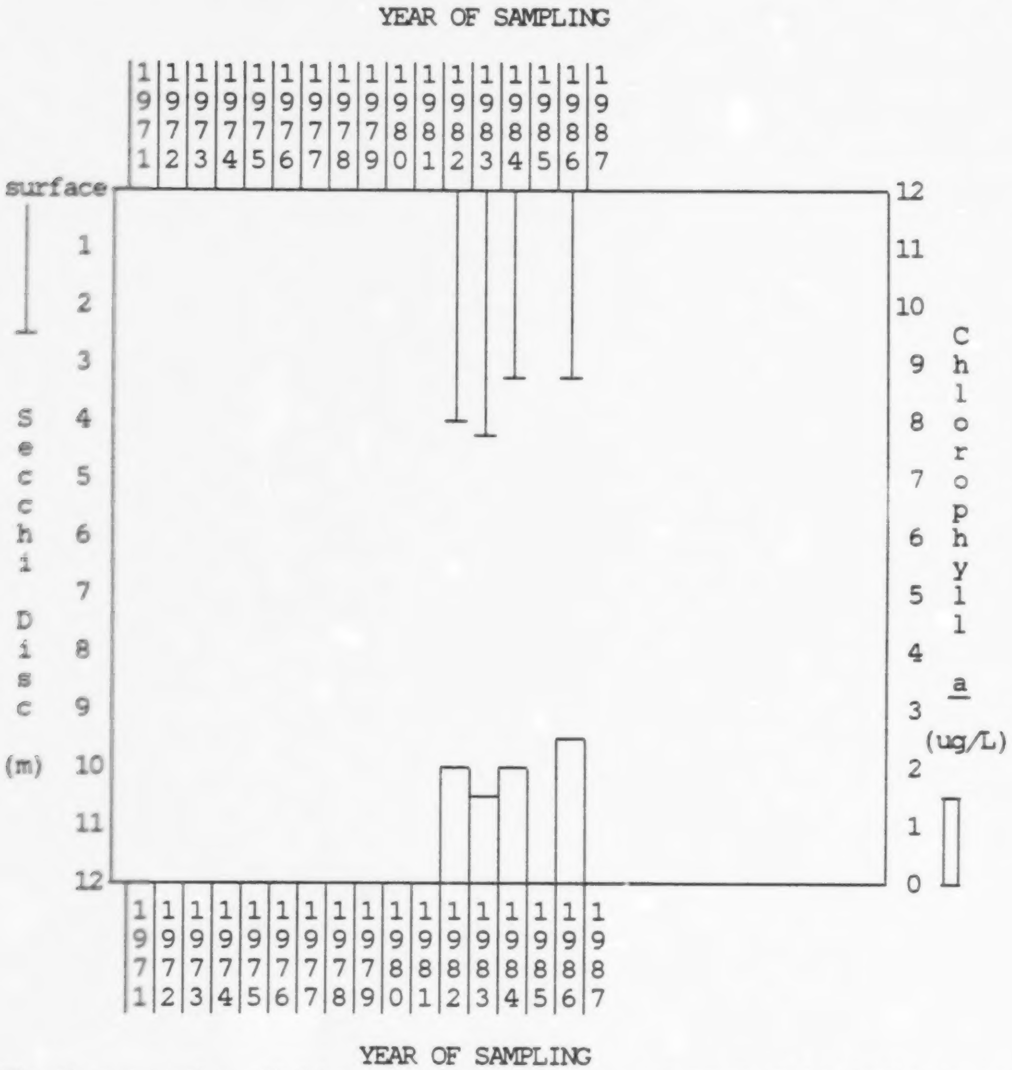


Figure 2 : Summary of results for Secchi disc (m) and chlorophyll a (ug/L) from Sparrow Lake (North End) from 1983 to 1986. Seasonal mean data (more than 6 sampling dates) unless otherwise specified. A minimum of 4 results was required for graphing.



The 3 years of available data for th North End station of Sparrow Lake show no change in water quality. The results indicate moderately enriched conditions with a moderately low degree of water clarity and moderately low densities of suspended algae.
We hope sampling is done in 1987 in order to establish a long-term record of water quality for the North End station of Sparrow Lake.

Figure 2 : Summary of results for Secchi disc (m) and chlorophyll a (ug/L) from Sparrow Lake (Deep Bay) from 1982 to 1986. Seasonal mean data (more than 6 sampling dates) unless otherwise specified. A minimum of 4 results was required for graphing.



The 4 years of available data for Deep Bay on Sparrow Lake indicate no change in water quality. The results indicate moderately enriched conditions with a moderate degree of water clarity and moderate to low densities of suspended algae.

We hope that sampling is done in 1987 in order to maintain a long-term record of water quality at this location.

STURGEON LAKE

FENELON TOWNSHIP

VICTORIA COUNTY

Table 1: Secchi Disc (m) and chlorophyll a (ug/L) data collected from Sturgeon Lake in 1986

Station	Off Sturgeon Pt. (Foot 2nd St.)	
Date	S.D.	Chl.a
June 2	3.0	3.5
June 9	3.25	7.8
June 21	3.5	4.7
June 29	2.5	8.9
July 5	2.15	7.3
July 20	3.3	5.7
July 27	4.25	3.5
Aug 18	3.6	6.5
Aug 24	2.25	6.9
Sept 1	2.3	11.8
Sept 7	2.0	10.5
Sept 15	2.0	9.5
Sept 21	2.3	7.7
Sept 28	2.0	8.6
Oct 5	4.0	2.6
	2.8	7.0

Another excellent sampling program was done on Sturgeon Lake in 1986, with sampling on 15 occasions from June 2 to Oct 5.

Secchi disc readings ranged from 2.0 to 4.25 m and averaged 2.8 m, indicating a low degree of water transparency.

Chlorophyll a concentrations ranged from 2.6 to 11.8 ug/L and averaged 7.0 ug/L, indicating high densities of suspended algae, particularly in early September.

Based on the 1986 results, Sturgeon Lake would be considered an enriched lake which has periodic algae blooms.

FIGURE 1: The relationship between Secchi disc and chlorophyll a for Sturgeon Lake in 1986 and a number of recreational lakes in Central Region. All data are seasonal averages.

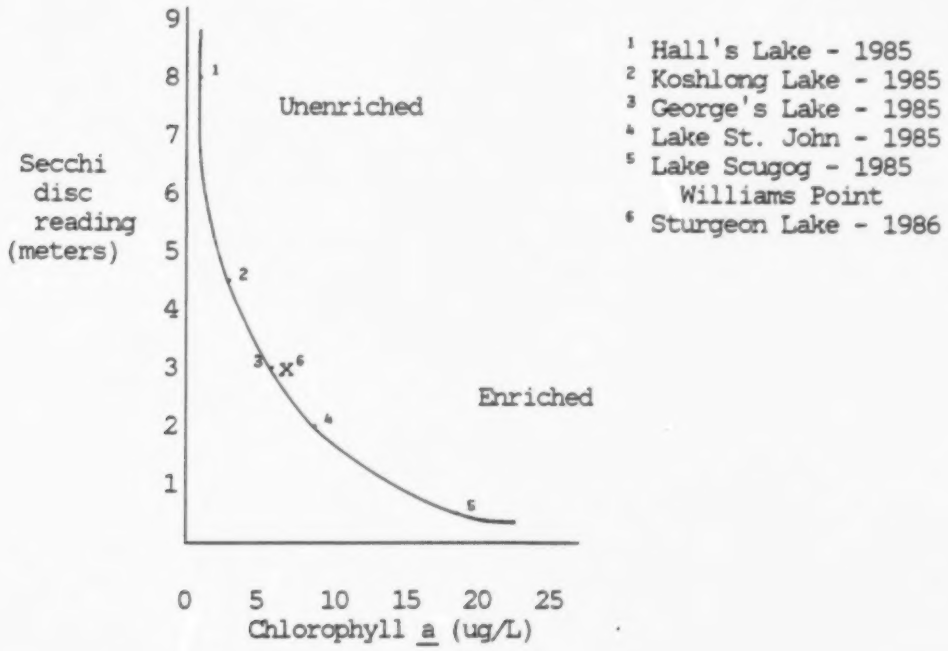
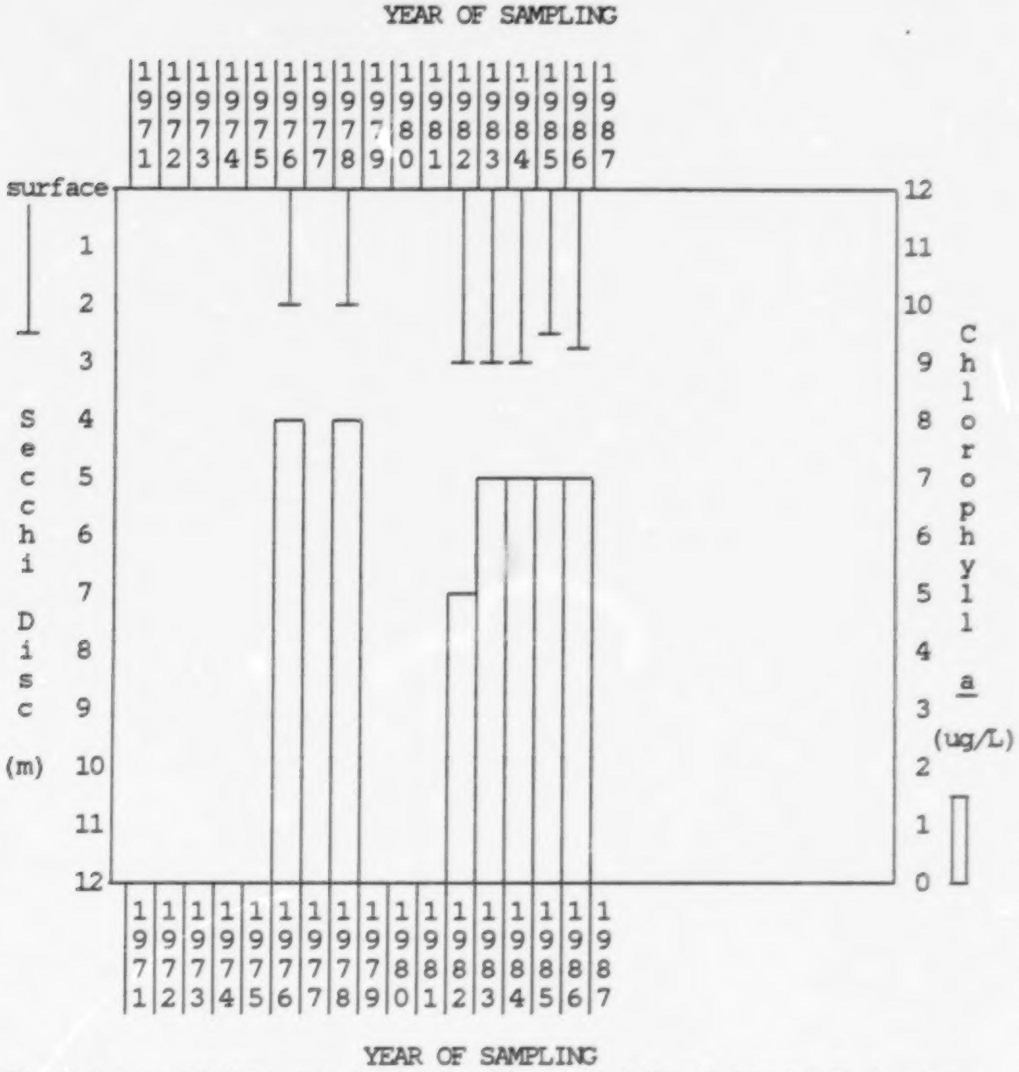


Figure 2 : Summary of results for Secchi disc (m) and chlorophyll a (ug/L) from Sturgeon Lake from 1976 to 1986. Seasonal mean data (more than 6 sampling dates) only.



The 7 years of data available for Sturgeon Lake indicate that water quality has not changed since 1976.

The degree of water clarity has been consistently low and the densities of suspended algae have been high.

We hope that you sample in 1987 in order to maintain the record of water quality for Sturgeon Lake.

SUNNY LAKE

MORRISON WARD
TOWN OF GRAVENHURST

DISTRICT MUNICIPALITY OF
MUSKOKA

Table 1: Secchi Disc (m) and chlorophyll a (ug/L) data collected from Sunny Lake in 1986

Station	Gordon's Cottage		North Bay	
Date	S.D.	Chl.a	S.D.	Chl.a
July 20?	4.5	CR	3.0	CR
Aug 4	5.25	2.9	3.5	2.7
Aug 10	5.0	7.8	3.5	4.7
Aug 17	4.75	7.4	3.5	6.0
Aug 24	4.75	3.8	3.5	2.8
Sept 28	3.5	3.8	2.5	4.9
	4.6	5.1	3.3	4.2

? - No Date   CR - Could not perform confirming reanalysis

A good sampling program was conducted on Sunny Lake in 1986, with 6 sampling occasions. Secchi disc readings averaged 4.6 m at Gordon's Cottage and 3.3 m at North Bay, indicating a moderate degree of water clarity. Chlorophyll a concentrations averaged 5.1 ug/L at Gordon's Cottage and 4.2 ug/L at North Bay, indicating moderate to high densities of suspended algae. Based on these results, Sunny Lake would be considered borderline between enriched and moderately enriched.

FIGURE 1: The relationship between Secchi disc and chlorophyll a for Sunny Lake in 1986 and a number of recreational lakes in Central Region. All data are seasonal averages.

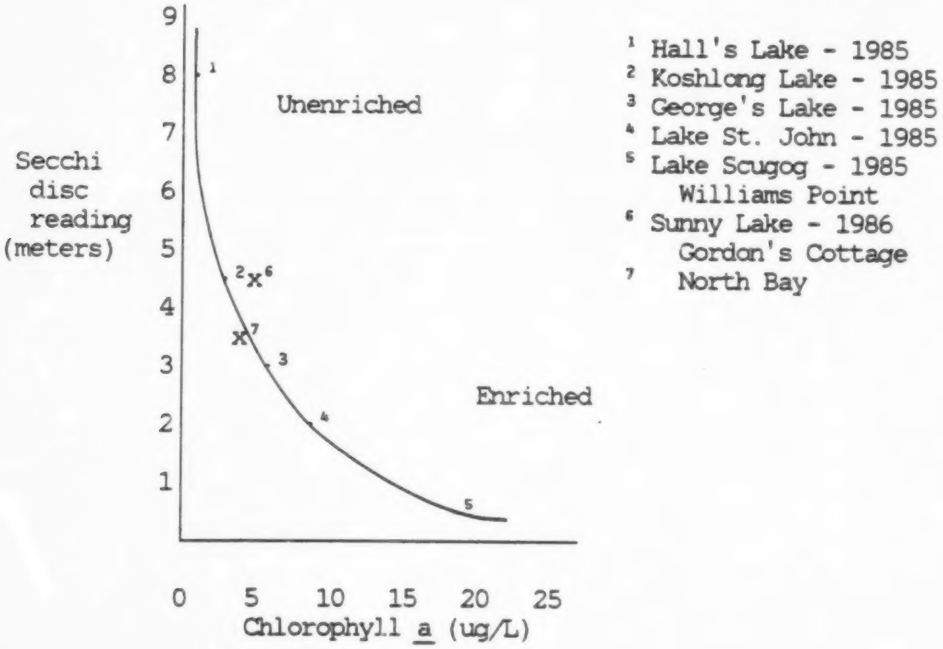
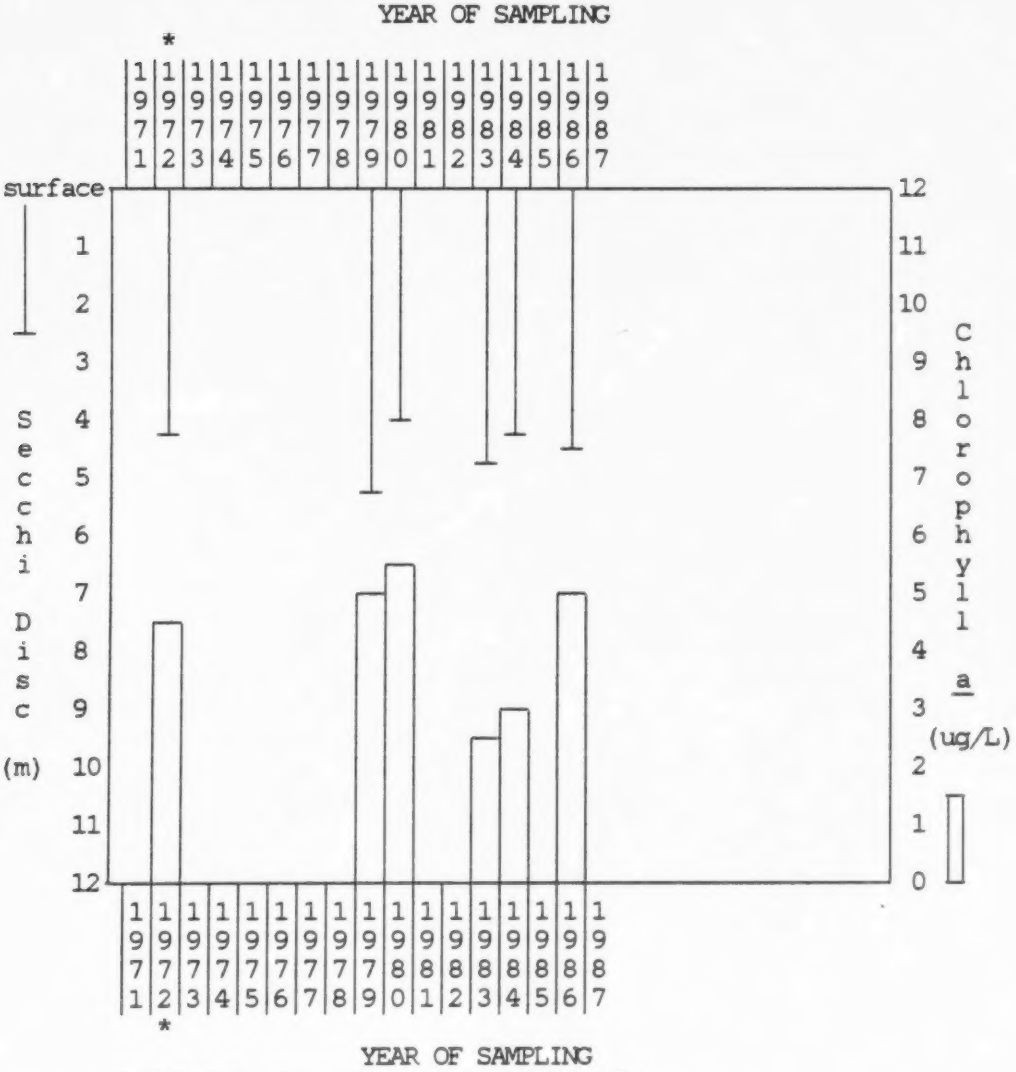


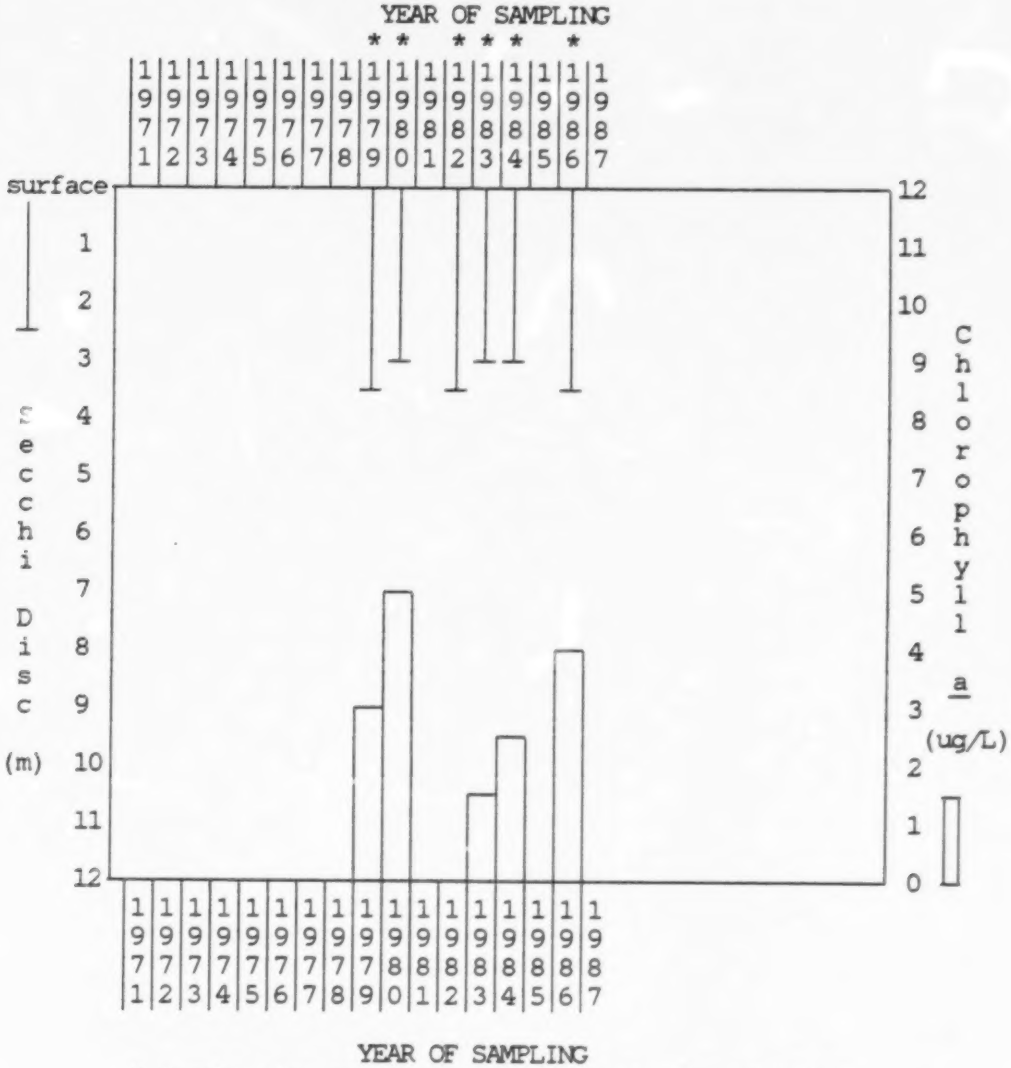
Figure 2 : Summary of results for Secchi disc (m) and chlorophyll a (ug/L) from Sunny Lake (Gordon's cottage) from 1972 to to 1986. Seasonal mean data (more than 6 sampling dates) unless otherwise specified. A minimum of 4 results was required for graphing.



* MOE data from deepest point in lake

The 6 years of reliable data indicate moderately enriched to enriched conditions with a moderate degree of water clarity and moderate to high densities of suspended algae. We hope that sampling continues in 1987 to maintain a long-term record of water quality at this station.

Figure 2 : Summary of results for Secchi disc (m) and chlorophyll a (ug/L) from Sunny Lake (North Bay) from 1979 to 1986. Seasonal mean data (more than 6 sampling dates) unless otherwise specified. A minimum of 4 results was required for graphing.



* Secchi disc readings not representative of water clarity since Secchi disc was on bottom most of the time.

The 5 years of available data indicate that the overall water quality of Sunny Lake has not changed since 1979. The results indicate moderately enriched conditions with a moderately low degree of water clarity and variable densities of suspended algae.

We hope that sampling continues in 1987 in order to maintain a long-term record of water quality.

TASSO LAKE

FINLAYSON WARD
TOWNSHIP OF LAKE OF BAYS

DISTRICT MUNICIPALITY OF
MUSKOKA

Table 1: Secchi Disc (m) and chlorophyll a (ug/L) data collected from Tasso Lake in 1986

Station	2nd Bay (south of dam)	
Date	S.D.	Chl.a
July 13	6.0	2.8
July 27	7.0	0.8
Aug 4	6.0	3.4
Aug 17	6.5	4.8
Sept 1	7.0	3.7
Sept 14	5.5	2.0
	6.3	3.3*

L - Less than
* based on only 5 results

A good sampling program was conducted on Tasso Lake in 1986. Secchi disc readings were high, ranging from 5.5 to 7.0 m and averaging 6.3 m, indicating a high degree of water clarity. Chlorophyll a concentrations ranged from less than 0.8 to 4.8 ug/L and averaged 3.3 ug/L, indicating moderate densities of suspended algae. Based on the 1986 results, Tasso Lake would be considered moderately enriched with a higher than normal water clarity.

FIGURE 1: The relationship between Secchi disc and chlorophyll a for Tasso Lake in 1986 and a number of recreational lakes in Central Region. All data are seasonal averages.

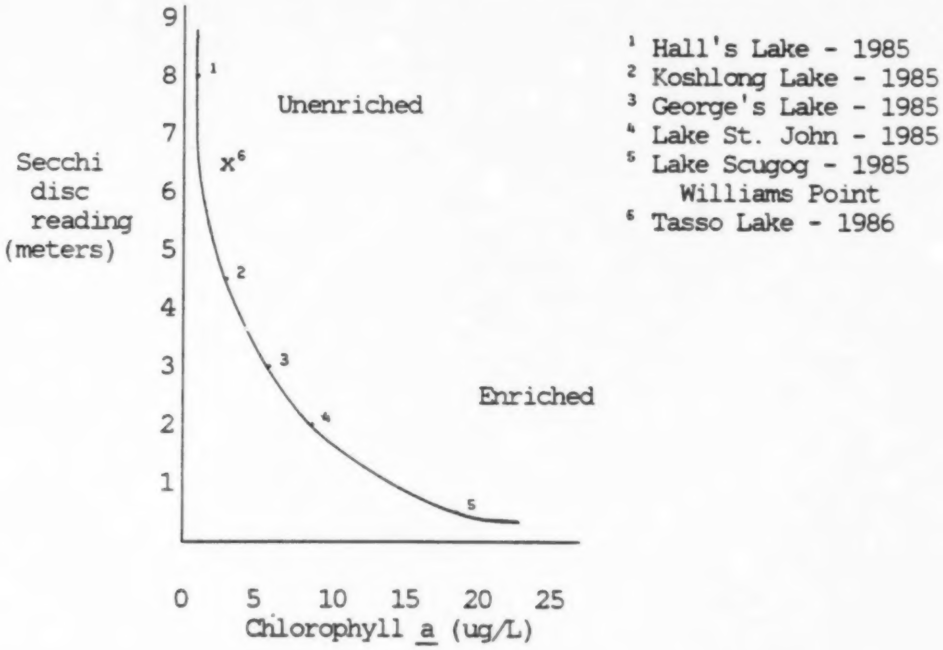
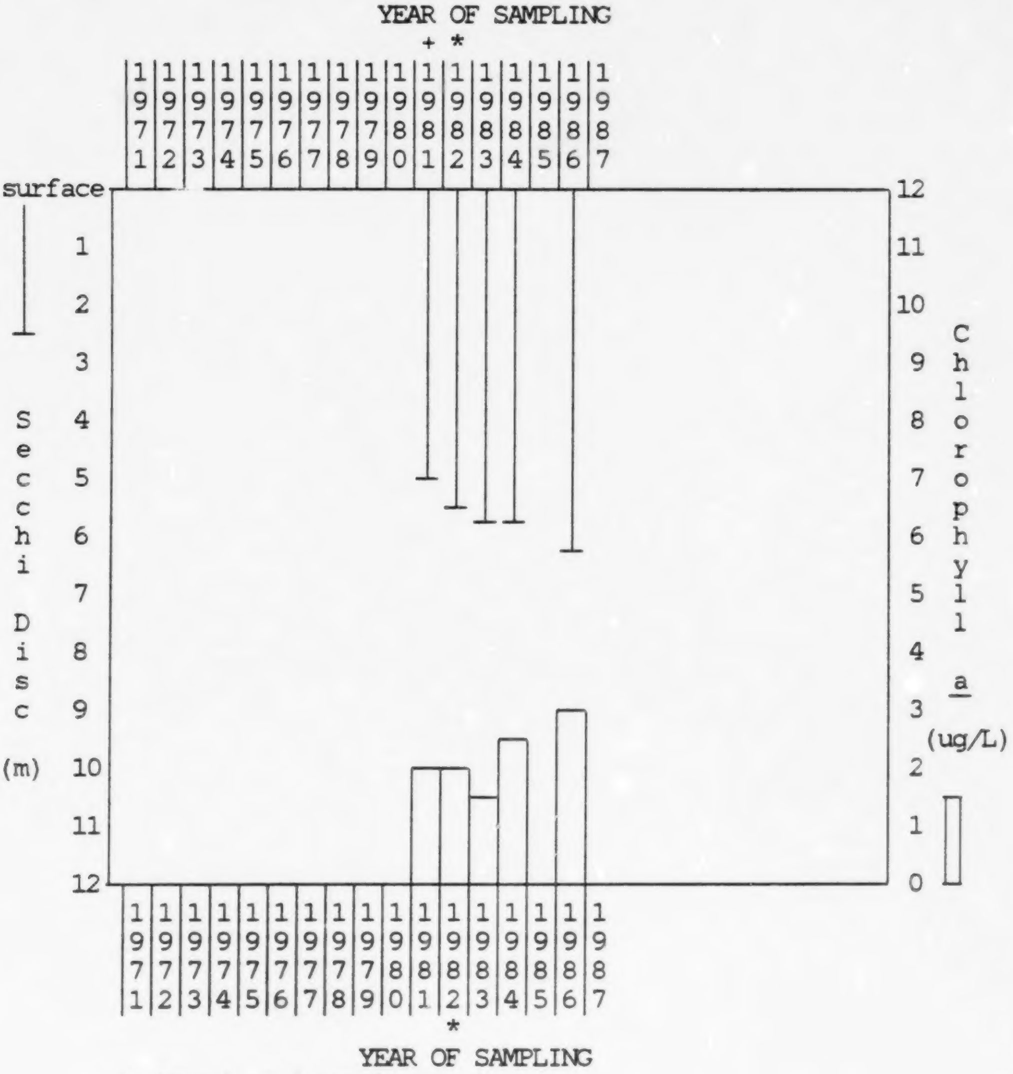


Figure 2 : Summary of results for Secchi disc (m) and chlorophyll a (ug/L) from Tasso Lake from 1982 to 1986.
Seasonal mean data (more than 6 sampling dates) unless otherwise specified. A minimum of 4 results was required for graphing.



* based on 4 sample results
+ M.O.E. data

The 5 years of reliable data for Tasso Lake indicate that there has been no overall change in the water quality.
The degree of water clarity has been high, and the densities of suspended algae have been moderately low.
We hope sampling continues on Tasso Lake in 1987 in order to maintain a long-term record of water quality.

TWELVE MILE LAKE

MINDEN TOWNSHIP

COUNTY OF HALIBURTON

Table 1: Secchi Disc (m) and chlorophyll a (ug/L) data collected from Twelve Mile Lake in 1986

Station	Main		East	
Date	S.D.	Chl.a	S.D.	Chl.a
July 5			6.5	1.1
July 20	6.0	L 0.1	5.5	1.8
July 27	5.5	2.8	5.5	2.9
Sept 1	5.0	4.2	5.0	3.1
			5.6	2.2

L - Less than

Sampling in 1986, was done on only 4 occasions at the East station of Twelve Mile Lake, and on only 3 occasions at the Main station. Based on these results, the Secchi disc readings averaged 5.6 m at the East station, indicating a high degree of water clarity. Chlorophyll a concentrations averaged 2.2 m at the East station, indicating moderately low concentrations of suspended algae. Based on these results, Twelve Mile Lake would be considered borderline between moderately enriched and unenriched. If sampling continues in 1987, we recommend increasing the sampling frequency to at least 6 occasions, if possible.

FIGURE 1: The relationship between Secchi disc and chlorophyll a for Twelve Mile Lake in 1986 and a number of recreational lakes in Central Region. All data are seasonal averages.

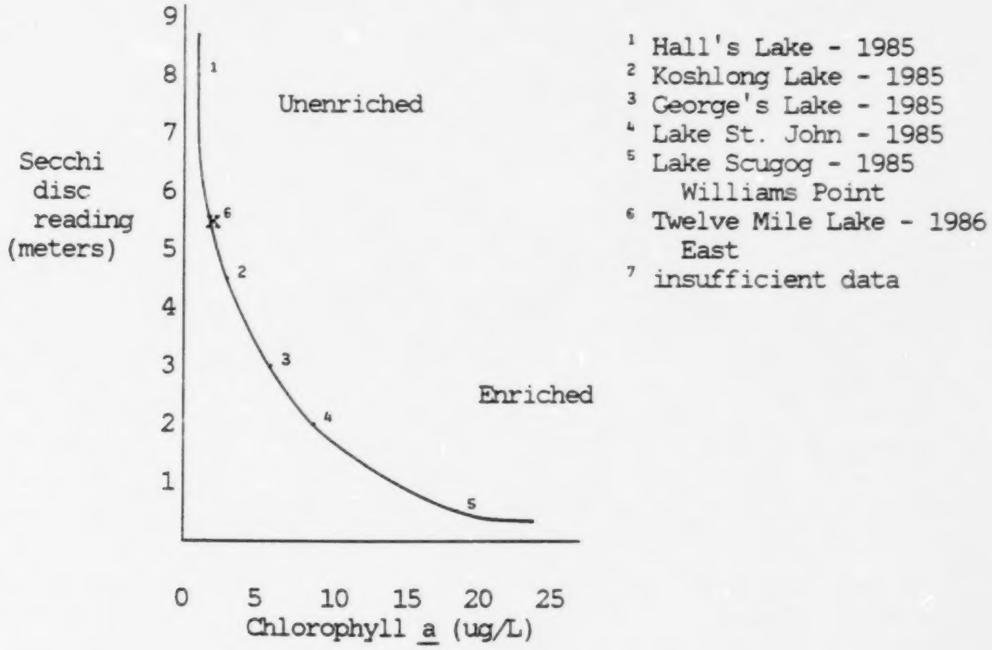
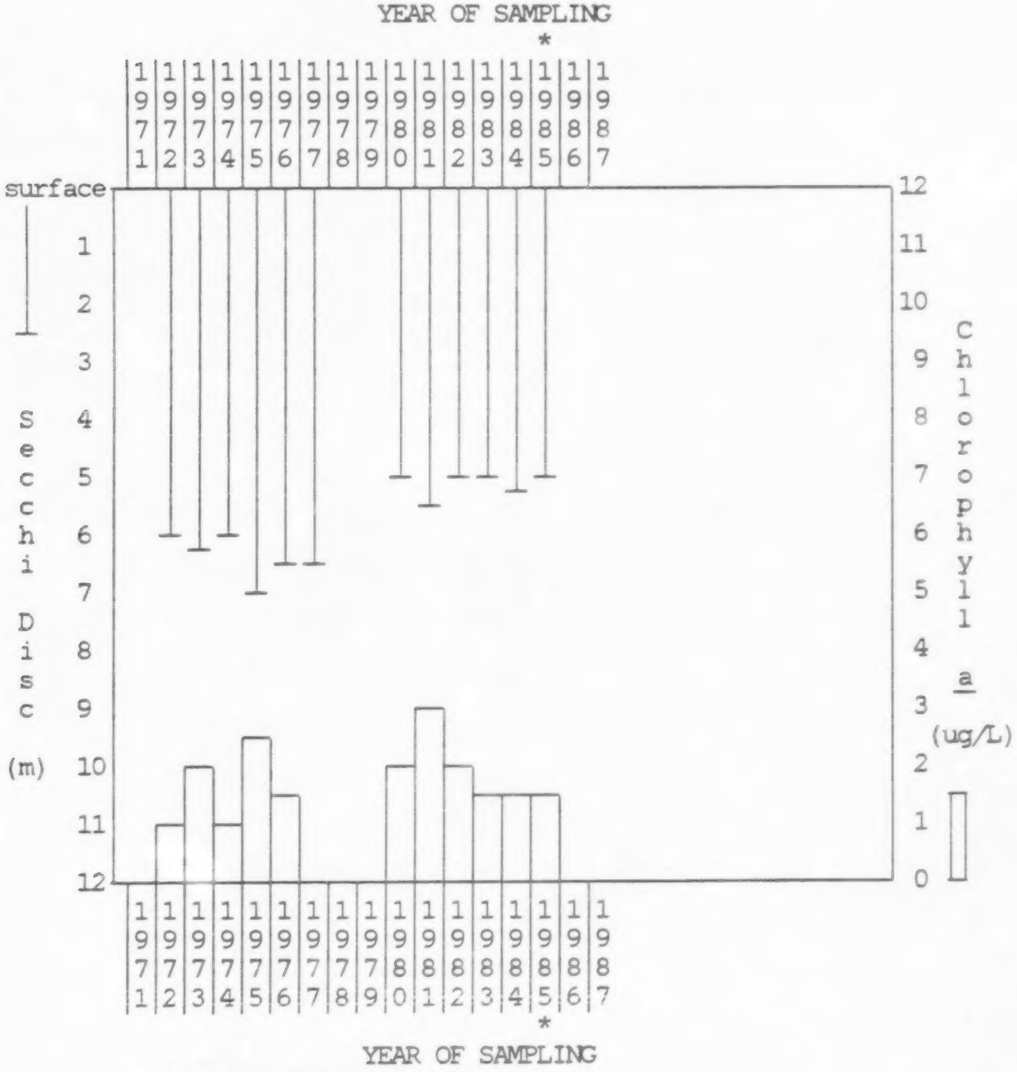


Figure 2 : Summary of results for Secchi disc (m) and chlorophyll a (ug/L) from Twelve Mile Lake (Main station) in Haliburton from 1972 to 1986. Seasonal mean data (more than 6 sampling dates) unless otherwise specified. A minimum of 4 results were required for graphing.

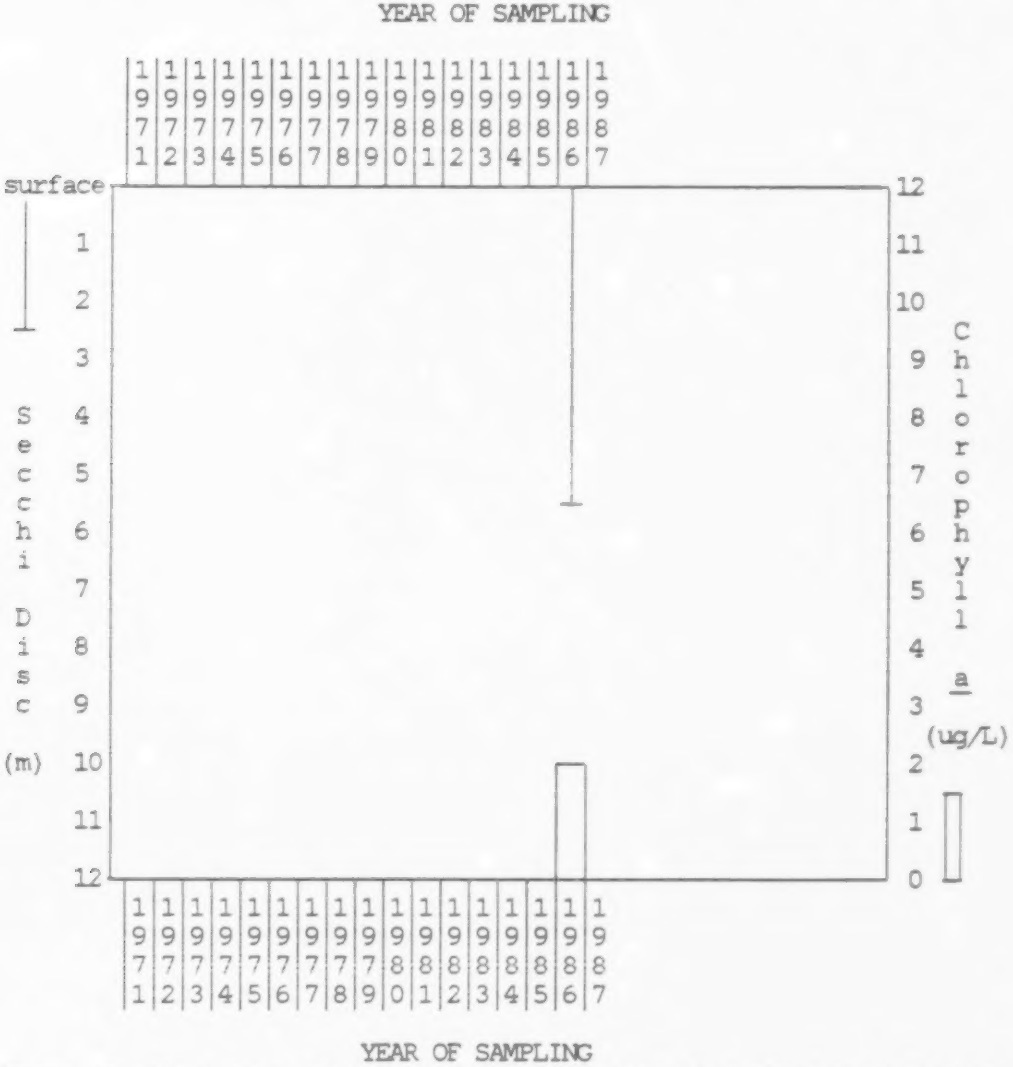


* based on 5 results

Insufficient sampling was done at the Main station of Twelve Mile Lake to obtain meaningful results. The previous 12 years of reliable seasonal average data available for the Main station on Twelve Mile Lake provide an excellent historical record of water quality. This record indicates that there has been an overall decline in the degree of water transparency. Readings from 1972 to 1976 were within the range of 6 to 7 m and from 1980 to 1986 the readings ranged from 5 to 5.5 m. There has also been a slight increase in chlorophyll a concentrations with levels from 1972 to 1976 ranging from 1 to 2.5 ug/L and from 1980 to 1986 concentrations ranged from 1.3 to 3.5 ug/L. The overall change in water quality in Twelve Mile Lake most likely reflects the influence of the Gull River which flushes Twelve Mile Lake.

We hope sampling continues in 1987 at this station with increased frequency.

Figure 2 : Summary of results for Secchi disc (m) and chlorophyll a (ug/L) from Twelve Mile Lake (East station) in Haliburton for 1986.
Seasonal mean data (more than 6 sampling dates) unless otherwise specified. A minimum of 4 results were required for graphing.



There is only 1 year of data available for the East station of Twelve Mile Lake.
We hope that sampling continues in 1987 in order to establish a long-term record of water quality at this location.

WASEOSA LAKE

CHAFFEY WARD
TOWN OF HUNTSVILLE

DISTRICT MUNICIPALITY OF
MUSKOKA

Table 1: Secchi Disc (m) and chlorophyll a (ug/L) data collected from Waseosa Lake in 1986

Station	North	
Date	S.D.	Chl.a
July 1	2.0	5.8
July 6	3.1	5.2
July 20	3.0	12.8
Aug 3	3.5	1.5
Aug 17	3.0	4.8
Aug 31	3.0	5.0
	2.9	5.9

A good sampling program was conducted on Waseosa Lake in 1986, with 6 sampling occasions.
Secchi disc readings ranged from 2.0 to 3.5 m and averaged 2.9 m, indicating a low degree of water clarity. Chlorophyll a concentrations ranged from 1.5 to 12.8 ug/L and averaged 5.9 ug/L, indicating high densities of suspended algae, with a bloom at the end of July.
Based on these results, Waseosa Lake would be considered enriched.

FIGURE 1: The relationship between Secchi disc and chlorophyll a for Waseosa Lake in 1986 and a number of recreational lakes in Central Region. All data are seasonal averages.

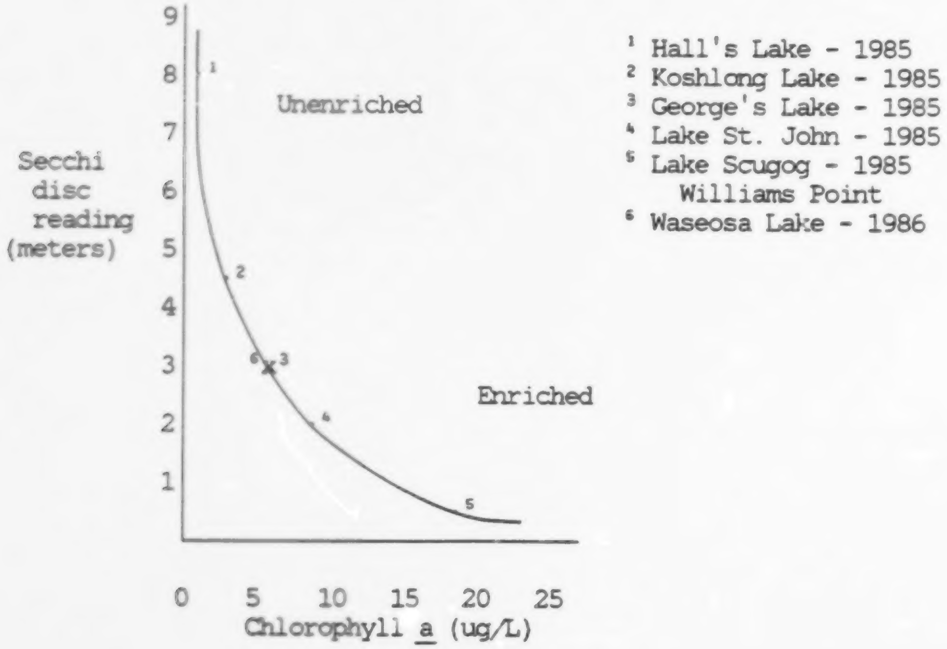
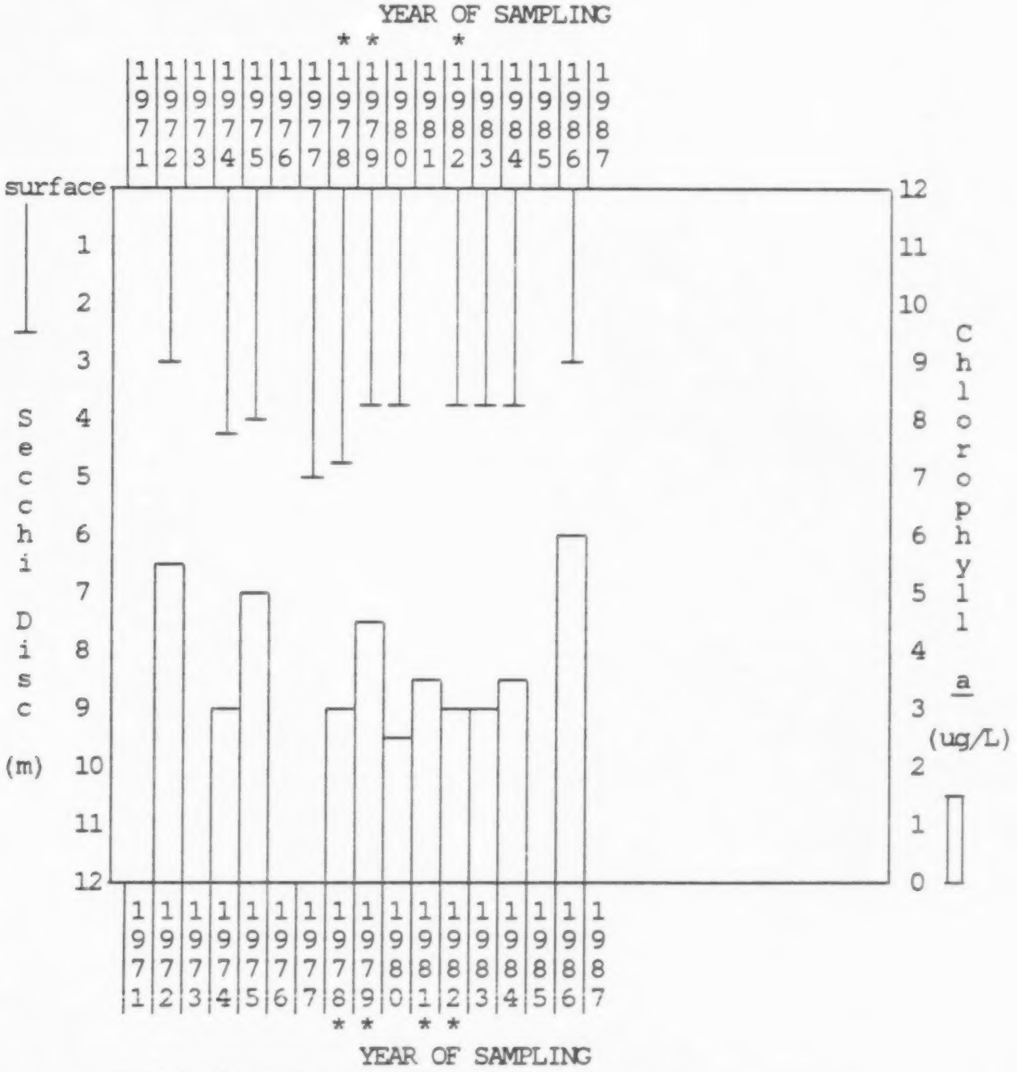


Figure 2 : Summary of results for Secchi disc (m) and chlorophyll a (ug/L) from Waseosa Lake from 1972 to 1986.
Seasonal mean data (more than 6 sampling dates) unless otherwise specified. A minimum of 4 results was required for graphing.



* based on 4 or 5 sample results

The 11 years of reliable data available for Waseosa Lake indicate that conditions are moderately enriched.
The degree of water clarity has been moderate for the period of record and densities of suspended algae appear to have declined from high densities in 1972 to moderate densities from 1980 to 1984, with high densities occurring again in 1986.
We hope sampling is done in 1987 to continue to monitor the long-term water quality of Waseosa Lake.

WENONA (LITTLE DUDMON) LAKE

DUDLEY TOWNSHIP

COUNTY OF HALIBURTON

Table 1: Secchi Disc (m) and chlorophyll a (ug/L) data collected from Wenona Lake in 1986

Station	North		South	
Date	S.D.	Chl.a	S.D.	Chl.a
May 25	5.0	2.6	6.0	2.1
July 20	4.5	2.8	4.5	4.2
July 27	4.5	2.0	4.5	2.7
Aug 4	4.0	2.1	4.0	2.0
Aug 10	4.0	1.9	4.5	1.9
Sept 5	4.5	1.5	4.0	1.8
	4.4	2.2	4.6	2.5

A good sampling program was done on Wenona Lake in 1986, with sampling on 6 occasions. Secchi disc readings averaged 4.4 m at the North station and 4.6 m at the South station, indicating a moderately high degree of water clarity. Chlorophyll a concentrations averaged 2.2 ug/L at the North station and 2.5 ug/L at the South station, indicating moderately low densities of suspended algae. Based on the 1986 results, Wenona Lake would be considered moderately enriched.

FIGURE 1: The relationship between Secchi disc and chlorophyll a for Wenona Lake in 1986 and a number of recreational lakes in Central Region. All data are seasonal averages.

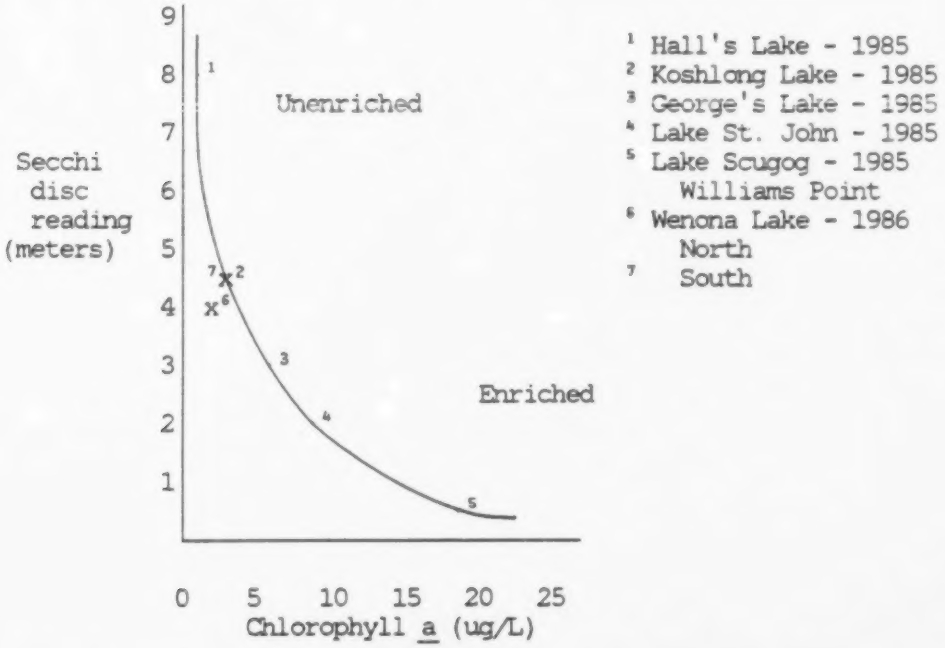
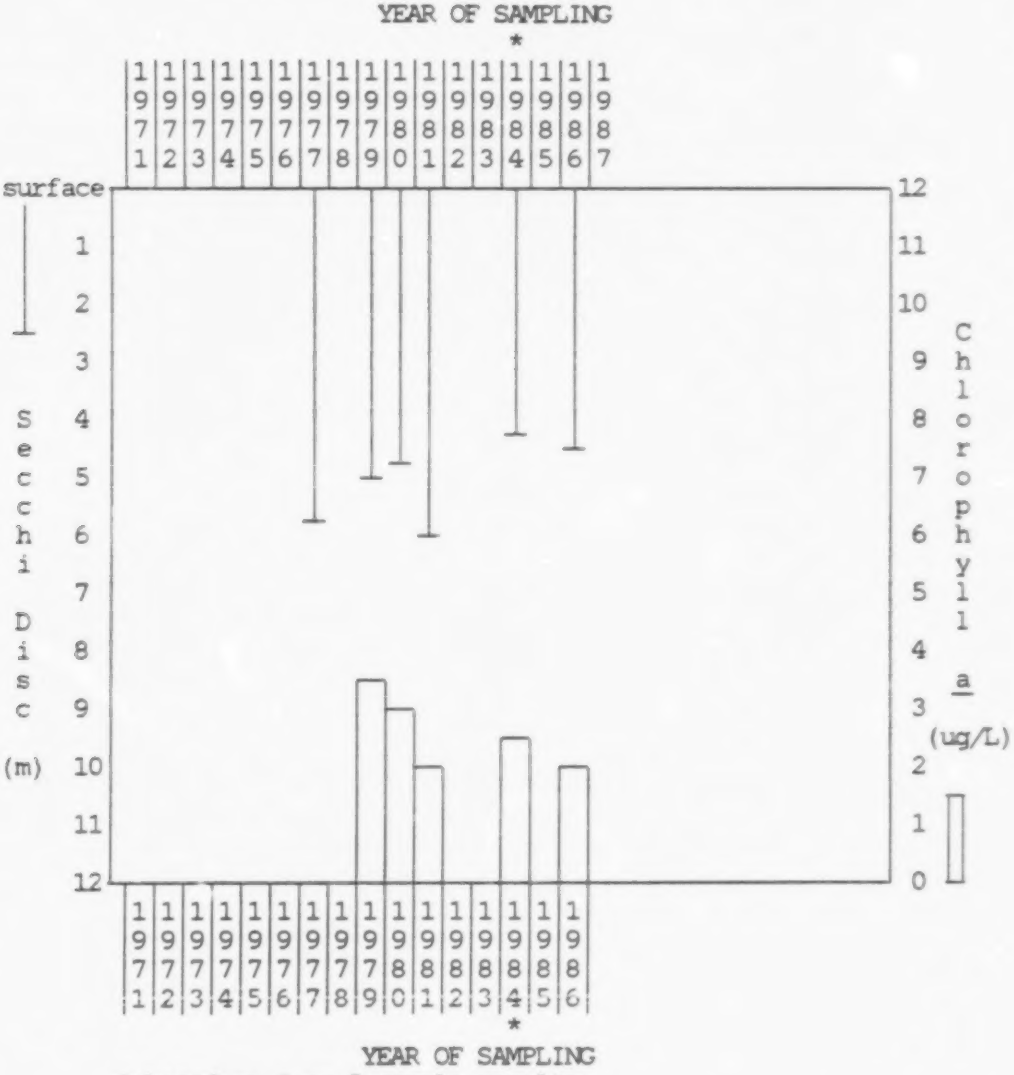


Figure 2 : Summary of results for Secchi disc (m) and chlorophyll a (ug/L) from Wenona Lake (North station) from 1977 to 1986. Seasonal mean data (more than 6 sampling dates) unless otherwise specified. A minimum of 4 results was required for graphing.

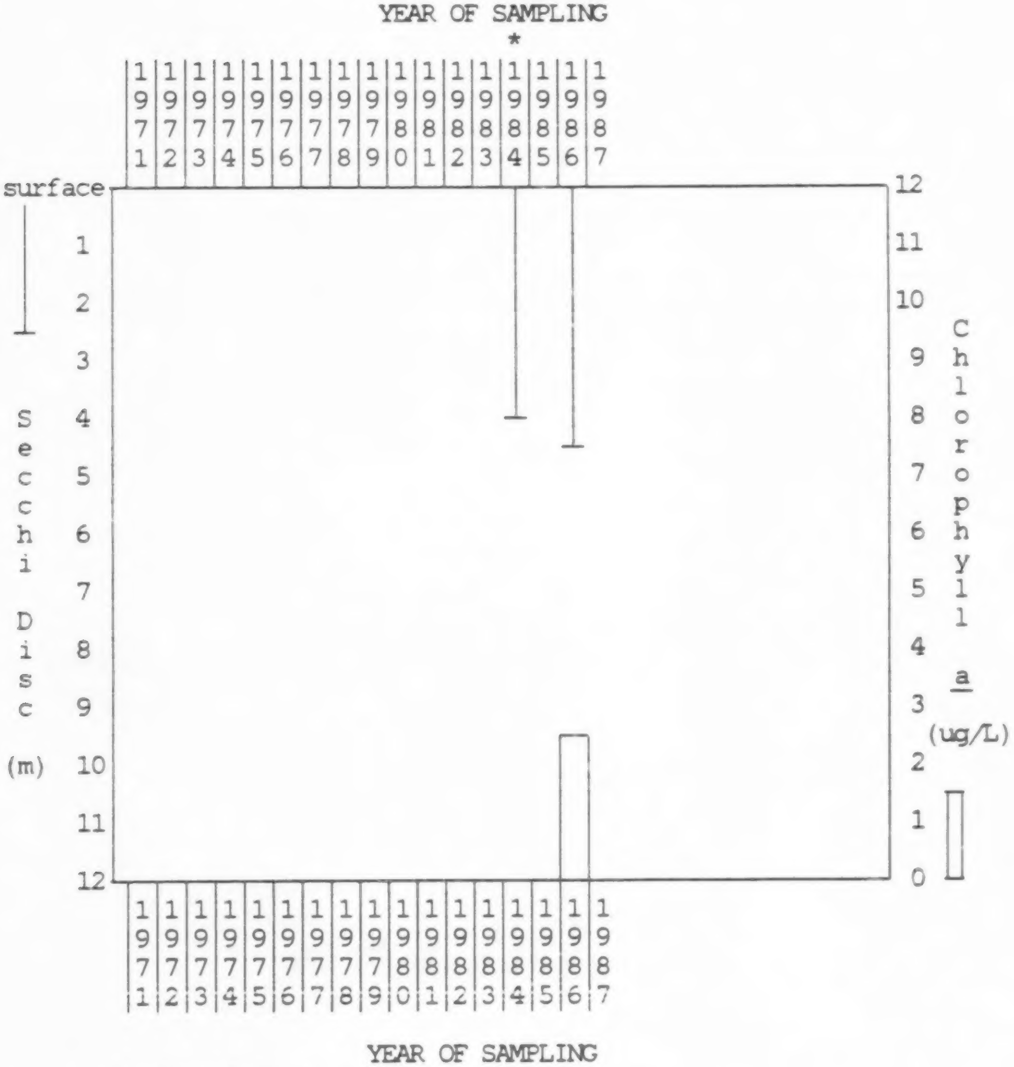


* based on 4 or 5 sample results

The 5 years of available data indicate conditions borderline between moderately enriched and unenriched. There appears to be no overall change in water quality since 1979.

We hope sampling at this station continues in 1987 in order to maintain a long-term record of water quality at this station.

Figure 2 : Summary of results for Secchi disc (m) and chlorophyll a (ug/L) from Wenona Lake (South station) from 1984 and 1986 Seasonal mean data (more than 6 sampling dates) unless otherwise specified. At least 4 results were required for graphing.



* based on 4 results

Insufficient data is available for this location to comment on any long-term water quality trends. We hope that sampling continues in 1987 in order to establish a long-term record of water quality.

WOOD LAKE

OAKLEY WARD
TOWN OF BRACEBRIDGE

DISTRICT MUNICIPALITY OF
MUSKOKA

Table 1: Secchi Disc (m) and chlorophyll a (ug/L) data collected from Wood Lake in 1986

Station	Middle Channel	
Date	S.D.	Chl.a
July 20	3.0	2.0
July 27	4.0	2.5
Aug 10	5.0	1.9
Aug 25	3.5	3.1
	3.9	2.4

Wood Lake was sampled on only 4 occasions in 1986.
Secchi disc readings averaged 3.9 m, indicating a moderate degree of water clarity. Chlorophyll a concentrations averaged 2.4 ug/L, indicating moderate densities of suspended algae.
Based on the 1986 results, Wood Lake would be considered moderately enriched. If sampling continues in 1987, we recommend increasing the sampling frequency to at least 6 occasions, if possible.

FIGURE 1: The relationship between Secchi disc and chlorophyll a for Wood Lake in 1986 and a number of recreational lakes in Central Region. All data are seasonal averages.

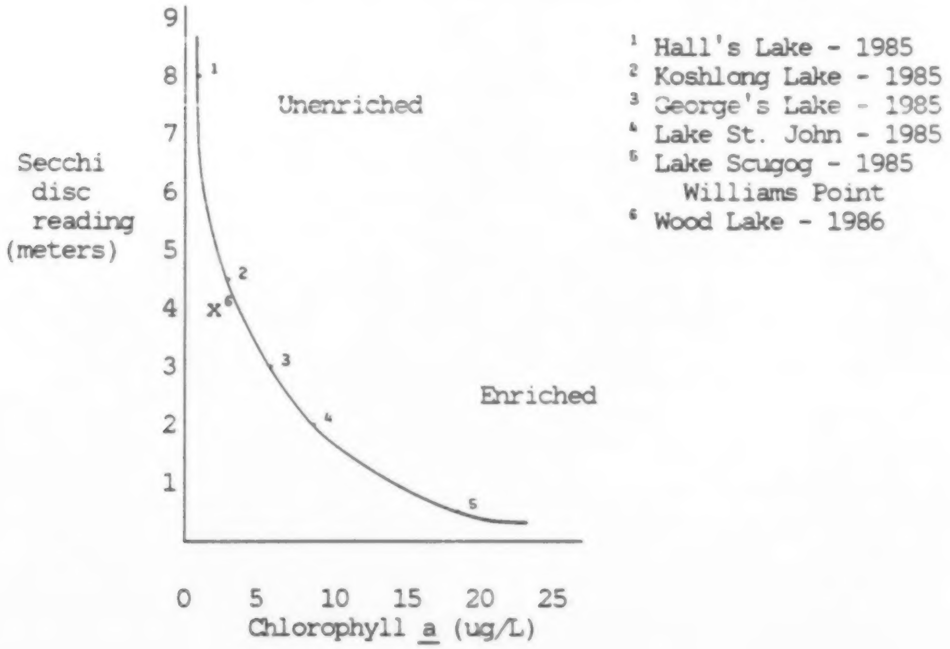
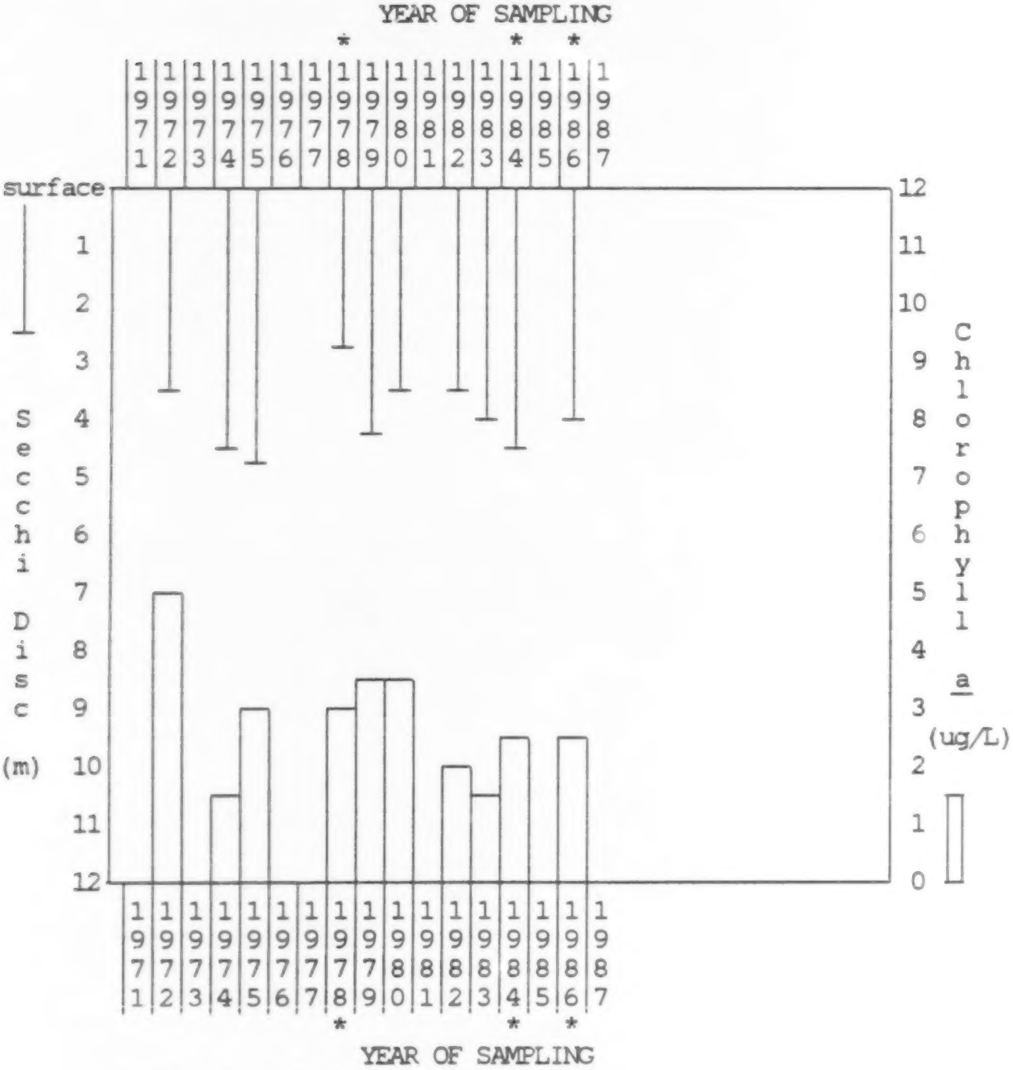


Figure 2 : Summary of results for Secchi disc (m) and chlorophyll a (ug/L) from Wood Lake (Middle) from 1972 to 1986. Seasonal mean data (more than 6 sampling dates) unless otherwise specified. A minimum of 4 results was required for graphing.



* based on 4 or 5 results

The 10 years of available data for the Middle Channel of Wood Lake indicate moderately enriched conditions.

The degree of water clarity has been moderate and the densities of suspended algae have been moderate except in 1972 when the densities were high.

We hope that sampling continues in 1987 with increased frequency.